```
=> FILE REG
FILE 'REGISTRY' ENTERED AT 12:44:14 ON 12 OCT 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)


=> D HIS

     FILE 'REGISTRY' ENTERED AT 10:20:12 ON 12 OCT 2006
                E AIBN/CN
L1            1 S E3
                E DIMETHYL SULFONE/CN
L2            1 S E3
                E DIETHYL SULFONE/CN
L3            1 S E3
                E DIPROPYL SULFONE/CN
L4            1 S E3
                E DIISOPROPYL SULFONE/CN
L5            1 S E3
                E DIBUTYL SULFONE/CN
L6            1 S E3
                E DIISOBUTYL SULFONE/CN
L7            1 S E3
                E DI-SEC-BUTYL SULFONE/CN
L8            1 S E3
                E DI-TERT-BUTYL SULFONE/CN
L9            1 S E3
                E DIPHENYL SULFONE/CN
L10           1 S E3
                E DIBENZYL SULFONE/CN
L11           1 S E3
L12          10 S L2-L11
                E PROPYLENE SULFONE/CN

     FILE 'LREGISTRY' ENTERED AT 10:26:26 ON 12 OCT 2006
L13             STR
L14           4 S L13
L15          77 S L13 FUL

     FILE 'REGISTRY' ENTERED AT 10:31:17 ON 12 OCT 2006
                E TRIMETHYLENE SULFONE/CN
L16           1 S E3
                E TETRAMETHYLENE SULFONE/CN
L17           1 S E3
                E PENTAMETHYLENE SULFONE/CN
L18           1 S E3
                E HEXAMETHYLENE SULFONE/CN
```

```
L19           1 S E3
L20           4 S L16-L19
                E ETHYLENE SULFOXIDE/CN
                E BUTENE SULFOXIDE/CN

     FILE 'LREGISTRY' ENTERED AT 10:34:07 ON 12 OCT 2006
                E C4H6O2S/MF
L21           6 S E3

     FILE 'REGISTRY' ENTERED AT 10:35:15 ON 12 OCT 2006
                E THIOPHENE, 2,5-DIHYDRO-, 1,1-DIOXIDE/CN
L22           1 S E3
                E "ETHENE, 1,1'-SULFONYLBIS-"/CN
L23           1 S E3

     FILE 'HCA' ENTERED AT 10:42:34 ON 12 OCT 2006
L24      468238 S ELECTROLY?
L25      226936 S BATTERY OR BATTERIES OR (ELECTROCHEM? OR ELECTROLY? OR

     FILE 'LREGISTRY' ENTERED AT 10:42:58 ON 12 OCT 2006
L26           STR
L27           STR L26

     FILE 'REGISTRY' ENTERED AT 10:44:45 ON 12 OCT 2006
L28          50 S L26 NOT L27
L29             STR L27
L30          50 S L26 NOT L29
L31        5293 S L26 NOT L29 FUL
                SAV L31 WEI086/A
                E BUTADIENE SULFONE/CN
L32           1 S E3
L33          17 S L12 OR L23 OR L20 OR L32 OR L22
                SAV L33 WEI086A/A

     FILE 'HCA' ENTERED AT 12:24:02 ON 12 OCT 2006
L34        4014 S L12 OR L23
L35        4771 S L20 OR L32 OR L22
L36       16902 S L31
L37        8053 S L1
L38          47 S (L34 OR L35) AND (L36 OR L37)
L39           6 S L38 AND (L24 OR L25)
L40           6 S L38 AND (52 OR 72)/SC,SX

     FILE 'REGISTRY' ENTERED AT 12:28:12 ON 12 OCT 2006
L41      432561 S (C(L)H(L)S(L)O)/ELS (L) 4/ELC.SUB
L42       67602 S L41 AND 1/S AND 2/O
L43        1291 S L42 AND ?SULFONE?/CNS
L44        1113 S L43 NOT PMS/CI
```

```
     FILE 'HCA' ENTERED AT 12:30:09 ON 12 OCT 2006
L45       13955 S L44
L46          75 S (L34 OR L35 OR L45) AND (L36 OR L37)
L47           9 S L46 AND (L24 OR L25 OR 52/SC,SX OR 72/SC,SX)

     FILE 'REGISTRY' ENTERED AT 12:35:40 ON 12 OCT 2006
L48      623125 S (C(L)H(L)N)/ELS (L) 3/ELC.SUB
L49      424096 S AZO OR ?AZOBIS?/CNS
L50       11959 S L48 AND L49
L51       11757 S L50 NOT PMS/CI

     FILE 'HCA' ENTERED AT 12:39:09 ON 12 OCT 2006
L52       73352 S L51
L53         410 S (L34 OR L35 OR L45) AND (L36 OR L37 OR L52)
L54          18 S L53 AND (L24 OR L25)
L55          11 S L53 AND (52 OR 72)/SC,SX
L56           9 S L39 OR L40 OR L47
L57          10 S (L54 OR L55) NOT L56

     FILE 'REGISTRY' ENTERED AT 12:44:14 ON 12 OCT 2006


=> D L31 QUE STAT
L26             STR

C--O--O--C
1  2  3  4


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   4

STEREO ATTRIBUTES: NONE
L29             STR

  5
  O
  ||
1 C--O--O--C
    2  3  4


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
```

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
L31 5293 SEA FILE=REGISTRY SSS FUL L26 NOT L29

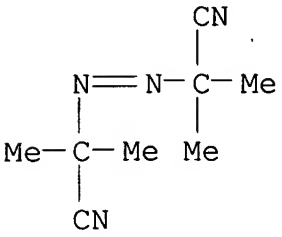
100.0% PROCESSED 14444 ITERATIONS 5293 ANSWERS
SEARCH TIME: 00.00.01

=> FILE HCA
FILE 'HCA' ENTERED AT 12:44:53 ON 12 OCT 2006

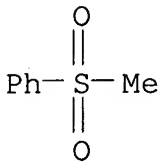
=> D L56 1-9 CBIB ABS HITSTR HITIND

L56 ANSWER 1 OF 9 HCA COPYRIGHT 2006 ACS on STN.
140:394771 Study on the wastewater treated by the iron chip micro-**electrolysis**. Ma, Qian; Ye, Shaodan; Li, Yijiu; Liu, Yafei; Ni, Yaming (School of Life Science and Technology Analysis and Research Center, Tongji University, Shanghai, 200092, Peop. Rep. China). Gongye Shuichuli, 23(5), 38-41 (Chinese) 2003. CODEN: GOSHFA. ISSN: 1005-829X. Publisher: Gongye Shuichuli Zazhishe.
AB The photoresist-contg. wastewater was treated by the Fe chip micro-**electrolysis** method. The inorg. and org. pollutants in the wastewater after the treatment were analyzed by ICP-AES and GC-MS. There were several kinds of mechanisms for the removal or degrdn. of contaminants, such as the electrochem. corrosion, activated C absorption, coagulation sedimentation of Fe3+ and Fe2+, the redn. of Fe, etc. The removal efficiency for heavy metals such as Cu, Zn, V, and Sn was 100, 47, 100, and 98.1%, resp. The removal efficiency for phthalic anhydride, homologs of polypropylene glycol, 2-butenoic acid, and benzoic acid were 100, 29.9, 27.7, and 56.5%, resp. The degradability for nitrobenzene and 2-chlorobutenoic acid was all 100%.
IT **78-67-1**, Azobis(isobutyronitrile) **3112-85-4**, Methyl phenyl sulfone
(iron chip micro-**electrolysis** of photoresist-contg. wastewater)
RN 78-67-1 HCA

CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



RN 3112-85-4 HCA
CN Benzene, (methylsulfonyl)- (9CI) (CA INDEX NAME)



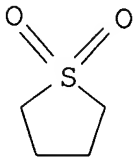
CC 60-2 (Waste Treatment and Disposal)
IT Wastewater treatment
(absorption; iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT Wastewater treatment
(coagulation; iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT Wastewater treatment
(electrochem.; iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT Heavy metals
Polyoxyalkylenes, processes
(iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT Wastewater treatment
(settling; iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT 7439-89-6, Iron, uses
(iron chip micro-**electrolysis** of photoresist-contg. wastewater)
IT 65-85-0, Benzoic acid, processes 70-55-3, 4-Methylbenzenesulfonamide **78-67-1**, Azobis(isobutyronitrile) 85-44-9, Phthalic anhydride 98-95-3, Nitrobenzene, processes 100-52-7, Benzaldehyde, processes 104-76-7, 2-Ethyl-1-hexanol 119-61-9, Benzophenone, processes 121-69-7, N,N-Dimethylaniline, processes 123-86-4, Butyl acetate 600-13-5 619-56-7, 4-Chlorobenzamide 822-06-0, Hexamethylene diisocyanate 930-68-7,

2-Cyclohexenone **3112-85-4**, Methyl phenyl sulfone 3724-65-0, 2-Butenoic acid 7440-31-5, Tin, processes 7440-50-8, Copper, processes 7440-62-2, Vanadium, processes 7440-66-6, Zinc, processes 13423-22-8, 3,3,4,4-Tetramethyl-2-azetidinone 25322-69-4, Polypropylene glycol 29911-27-1
(iron chip micro-**electrolysis** of photoresist-contg. wastewater)

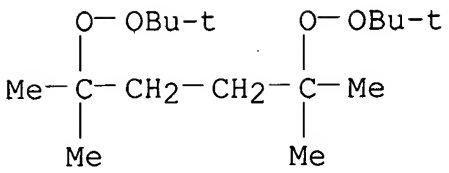
L56 ANSWER 2 OF 9 HCA COPYRIGHT 2006 ACS on STN
140:256340 Anodes for lithium **battery**. Kim, Yong-tae; Choi, Su-suk; Choi, Yun-suk; Lee, Kyoung-hee (Samsung Sdi Co., Ltd., S. Korea). U.S. Pat. Appl. Publ. US 2004058232 A1 20040325, 10 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-664157 20030917. PRIORITY: KR 2002-57577 20020923.

AB A lithium neg. electrode for a lithium **battery** has good cycle life and capacity characteristics. The lithium neg. electrode comprises a lithium metal layer and a protective layer present on the lithium metal layer, where the protective layer includes an organosulfur compd. An organosulfur compd. having a thiol terminal group is preferred since such a compd. can form a complex with lithium metal to enable coating to be carried out easily. The organosulfur compd. has a large no. of S or N elements having high electronegativity to form a complex with lithium ions, so it renders lithium ions to be deposited relatively evenly on the lithium metal surface, reducing dendrite formation.

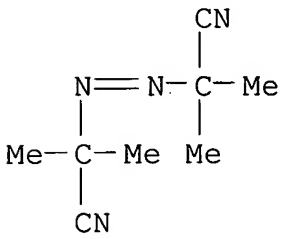
IT **126-33-0**, Sulfolane
(anodes for lithium **battery**)
RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



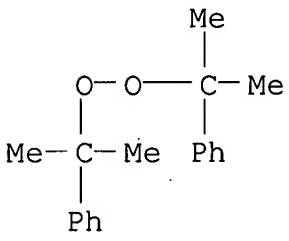
IT **78-63-7**, 2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane **78-67-1**, Azobisisobutyronitrile **80-43-3**, Dicumyl peroxide **110-05-4**, Di-tert-butyl peroxide **2167-23-9**, 2,2-Di-(tert-butylperoxy)butane **34099-48-4**, Peroxydicarbonate **55794-20-2**, Ethyl 3,3-di-(tert-butylperoxy)butyrate
(anodes for lithium **battery**)
RN 78-63-7 HCA
CN Peroxide, (1,1,4,4-tetramethyl-1,4-butanediyl)bis[(1,1-dimethylethyl) (9CI) (CA INDEX NAME)



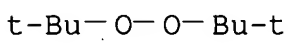
RN 78-67-1 HCA
CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



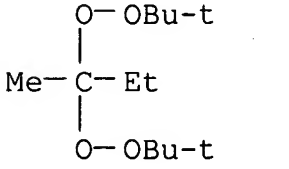
RN 80-43-3 HCA
CN Peroxide, bis(1-methyl-1-phenylethyl) (9CI) (CA INDEX NAME)



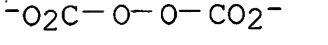
RN 110-05-4 HCA
CN Peroxide, bis(1,1-dimethylethyl) (9CI) (CA INDEX NAME)



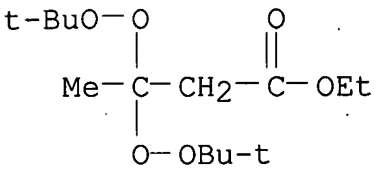
RN 2167-23-9 HCA
CN Peroxide, (1-methylpropylidene)bis[(1,1-dimethylethyl) (9CI) (CA INDEX NAME)



RN 34099-48-4 HCA
CN Peroxydicarbonate (9CI) (CA INDEX NAME)



RN 55794-20-2 HCA
CN Butanoic acid, 3,3-bis[(1,1-dimethylethyl)dioxy]-, ethyl ester (9CI) (CA INDEX NAME)



IC ICM H01M002-16
ICS H01M004-66; H01M004-40
INCL 429137000; 429246000; 429245000; 429212000; 429231950
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST anode lithium **battery**
IT Chalcogenides
Oxides (inorganic), uses
(Li-contg.; anodes for lithium **battery**)
IT Peroxides, uses
(acyl; anodes for lithium **battery**)
IT Hydroperoxides
(alkyl, tertiary; anodes for lithium **battery**)
IT Peroxides, uses
(alkyl; anodes for lithium **battery**)
IT **Battery** anodes
Coating materials
Conducting polymers
(anodes for lithium **battery**)
IT Acrylic polymers, uses
Polyanilines
Polyoxyalkylenes, uses
(anodes for lithium **battery**)
IT Amino acids, uses
Halogens
Lewis acids
Rare earth chlorides
Sulfonic acids, uses
Transition metal compounds
(dopant; anodes for lithium **battery**)

IT Primary **batteries**
Secondary **batteries**
(lithium; anodes for lithium **battery**)

IT Esters, uses
Ketals
(peroxy; anodes for lithium **battery**)

IT Crown ethers
Polybenzimidazoles
Polyquinolines
Polyquinoxalines
(thiophenes, polymers; anodes for lithium **battery**)

IT 110-71-4 111-96-6, Diglyme **126-33-0**, Sulfolane 646-06-0, 1,3-Dioxolane 7439-93-2, Lithium, uses 7704-34-9, Sulfur, uses
(anodes for lithium **battery**)

IT 67-63-0, Isopropyl alcohol, uses 75-91-2, tert-Butyl hydroperoxide **78-63-7**, 2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane **78-67-1**, Azobisisobutyronitrile 80-15-9, Cumene hydroperoxide **80-43-3**, Dicumyl peroxide 94-36-0, Dibenzoyl peroxide, uses 105-74-8, Dilauroyl peroxide **110-05-4**, Di-tert-butyl peroxide 123-23-9, Succinic acid peroxide 762-12-9, Didecanoyl peroxide 927-07-1, tert-Butylperoxypivalate **2167-23-9**, 2,2-Di-(tert-butylperoxy)butane 3025-88-5, 2.5-Dihydroperoxy-2,5-dimethylhexane 4511-39-1, tert-Amylperoxybenzoate 15667-10-4, 1,1-Di-(tert-amylperoxy)cyclohexane 16066-38-9, Di(n-propyl)peroxy dicarbonate 16111-62-9, Di(2-ethylhexyl)peroxy dicarbonate 19910-65-7, Di(sec-butyl)peroxy dicarbonate 24937-05-1, Poly(ethyleneadipate) 24938-43-0, Poly(β-propiolactone) 24969-06-0, Polyepichlorohydrin 25190-62-9, Poly(p-phenylene) 25233-30-1, Polyaniline 25233-30-1D, Polyaniline, sulfonated 25233-34-5, Polythiophene 25233-34-5D, Polythiophene, derivs. 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25667-11-2, Poly(ethylenesuccinate) 25721-76-0, Polyethylene glycol dimethacrylate 25852-49-7, Polypropylene glycol dimethacrylate 26570-48-9, Poly(ethylene glycol diacrylate) 26748-47-0, α-Cumylperoxyneodecanoate **34099-48-4**, Peroxydicarbonate 52496-08-9, Poly(propyleneglycoldiacrylate) **55794-20-2**, Ethyl 3,3-di-(tert-butylperoxy)butyrate 95732-35-7 97332-10-0, Poly(N-propylaziridine) 139096-57-4, Isoquinoline homopolymer 172973-34-1
(anodes for lithium **battery**)

IT 865-44-1, Iodine trichloride 1493-13-6, Triflic acid 7446-11-9, Sulfur trioxide, uses 7550-45-0, Titanium chloride (TiCl4) (T-4)-, uses 7553-56-2, Iodine, uses 7601-90-3, Perchloric acid, uses 7637-07-2, uses 7647-01-0, Hydrochloric acid, uses 7647-19-0, Phosphorus pentafluoride 7664-39-3, Hydrofluoric acid, uses 7664-93-9, Sulfuric acid, uses 7697-37-2, Nitric acid, uses

7705-08-0, Ferric chloride, uses 7721-01-9, Tantalum chloride (TaCl5) 7726-95-6, Bromine, uses 7782-44-7, Oxygen, uses 7782-50-5, Chlorine, uses 7783-68-8, Niobium fluoride nbf5 7783-70-2, Antimony pentafluoride 7783-81-5 7783-82-6 7783-93-9, Silver perchlorate 7784-36-3, Arsenic pentafluoride 7789-21-1, Fluorosulfonic acid 7789-33-5, Iodine monobromide 7790-94-5, Chlorosulfonic acid 7790-99-0, Iodine monochloride 10026-11-6 10026-12-7, Niobium chloride (NbCl5) 10277-43-7, Lanthanum nitrate hexahydrate 10294-33-4, Boron tribromide 10294-34-5 13283-01-7 13499-05-3 13709-32-5, Bis(fluorosulfonyl)peroxide 13774-85-1 13819-84-6, Molybdenum fluoride mof5 13870-10-5, Iron chloride oxide feocl 13873-84-2, Iodine monofluoride 14635-75-7, Nitrosyl tetrafluoroborate 14797-73-0, Perchlorate 14874-70-5, Tetrafluoroborate 16871-80-0, Nitrosyl hexachloroantimonate 16887-00-6, Chloride, uses 16919-18-9, Hexafluorophosphate 16941-92-7, Hexachloroiridic acid 16973-45-8, Hexafluoroarsenate 17111-95-4 17856-92-7 20461-54-5, Iodide, uses 24959-67-9, Bromide, uses 25321-43-1, Octylbenzenesulfonic acid 27176-87-0, Dodecylbenzene sulfonic acid
(dopant; anodes for lithium **battery**)

IT 540-63-6, 1,2-Ethanedithiol 1072-71-5, 2,5-Dimercapto-1,3,4-thiadiazole 2001-93-6, 2,4-Dimercaptopyrimidine 2150-02-9, Bis(2-mercaptoethyl)ether 3570-55-6, Bis(2-mercaptoethyl)sulfide 9002-98-6 9002-98-6D, derivs. 37306-44-8D, Triazole, mecapto derivs 131538-50-6 135886-78-1 135886-79-2
(protective coating; anodes for lithium **battery**)

IT 7704-34-9D, Sulfur, organosulfur compd.
(protective layer; anodes for lithium **battery**)

IT 273-77-8, 1,2,3-Benzothiadiazole 612-79-3, 6,6'-Biquinoline 25013-01-8, Polypyridine 25013-01-8D, Polypyridine, derivs. 26856-35-9, Dihydrophenanthrene 27986-50-1, Poly(1,3-cyclohexadiene) 30604-81-0, Polypyrrole 30604-81-0D, Polypyrrole, derivs. 51937-67-8, Polyferrocene 71730-08-0, Polyanthraquinone 136902-52-8, 2,2'-Bipyridine homopolymer 136902-52-8D, 2,2'-Bipyridine homopolymer, derivs. 190201-51-5, Pyrimidine homopolymer 190201-57-1, 1,5-Naphthyridine homopolymer
(thiophenes, polymers; anodes for lithium **battery**)

L56 ANSWER 3 OF 9 HCA COPYRIGHT 2006 ACS on STN

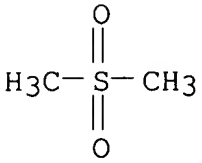
140:238483 **Electrolyte** for a lithium **battery**. Park, Yong-Chul; Jung, Won-Ii; Kim, Geun-Bae; Cho, Jae-Phil; Jung, Cheol-Soo (S. Korea). U.S. Pat. Appl. Publ. US 2004048163 A1 20040311, 13 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-656086 20030905. PRIORITY: KR 2002-53879 20020906.

AB An **electrolyte** for a lithium **battery** includes a nonaq. org. solvent, a lithium salt, and an additive comprising (a) a sulfone-based compd. and (b) a C3-30 org. peroxide or azo-based

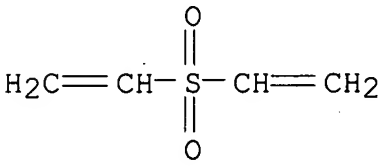
compd. The **electrolyte** may further include a poly(ester)(meth)acrylate or a polymer that is derived from a (polyester)polyol with at least three hydroxyl (-OH) groups, where a portion or all of the hydroxyl groups are substituted with a (meth)acrylic ester and the remaining hydroxyl groups that are not substituted with the (meth)acrylic ester are substituted with a group having no radical reactivity. The lithium **battery** comprising the **electrolyte** of the present invention has a significantly improved charge-discharge and cycle life characteristics, recovery capacity ratio at high temp., and swelling inhibition properties.

IT **67-71-0**, Methyl sulfone **77-77-0**, Vinyl sulfone **78-67-1**, 2,2'-Azobisisobutyronitrile **126-33-0**, Tetramethylene sulfone **127-63-9**, Phenyl sulfone **620-32-6**, Benzyl sulfone **28452-93-9**, Butadiene sulfone **32752-09-3**, Isobutyl peroxide
(**electrolyte** for lithium **battery**)

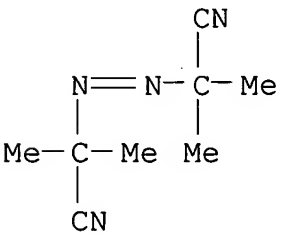
RN 67-71-0 HCA
CN Methane, sulfonylbis- (9CI) (CA INDEX NAME)



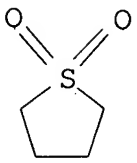
RN 77-77-0 HCA
CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



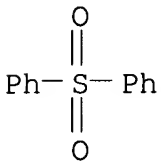
RN 78-67-1 HCA
CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



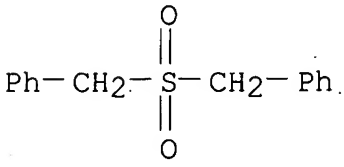
RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 127-63-9 HCA
CN Benzene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



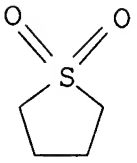
RN 620-32-6 HCA
CN Benzene, 1,1'-[sulfonylbis(methylene)]bis- (9CI) (CA INDEX NAME)



RN 28452-93-9 HCA
CN Thiophene, dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 126-33-0
CMF C4 H8 O2 S



RN 32752-09-3 HCA

CN Peroxide, bis(2-methylpropyl) (9CI) (CA INDEX NAME)

i-Bu—O—O—Bu-i

IC ICM H01M010-40
INCL 429326000; 429329000; 429339000; 429340000
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium **battery electrolyte**
IT **Battery electrolytes**
(**electrolyte** for lithium **battery**)
IT Aromatic hydrocarbons, uses
Carbonates, uses
Esters, uses
Ethers, uses
Ketones, uses
(**electrolyte** for lithium **battery**)
IT Azo compounds
(**electrolyte** for lithium **battery**)
IT Carbonaceous materials (technological products)
(**electrolyte** for lithium **battery**)
IT Sulfones
(**electrolyte** for lithium **battery**)
IT Polyesters, uses
(hydroxy-terminated; **electrolyte** for lithium **battery**)
IT Secondary **batteries**
(lithium; **electrolyte** for lithium **battery**)
IT Polyesters, uses
(methacrylate; **electrolyte** for lithium **battery**)
IT Peroxides, uses
(org., C3-30; **electrolyte** for lithium **battery**)
IT Esters, uses
(poly-; **electrolyte** for lithium **battery**)
IT Imides
Sulfonic acids, uses
(sulfonimides, perfluoro derivs., lithium salts; **electrolyte** for lithium **battery**)
IT 56-81-5, Glycerol, uses 71-43-2, Benzene, uses 96-49-1, Ethylene carbonate 98-95-3, Nitrobenzene, uses 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 108-88-3, Toluene, uses 108-90-7, Chlorobenzene, uses 149-32-6, Erythritol 462-06-6, Fluorobenzene 616-38-6, Dimethyl carbonate 623-53-0, Methylethyl carbonate 623-96-1, Dipropyl carbonate 1330-20-7, Xylene, uses

4437-85-8, Butylene carbonate 7790-99-0, Iodine chloride (ICl) 7791-03-9, Lithium perchlorate 10377-51-2, Lithium iodide (LiI) 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 27359-10-0, Trifluorotoluene 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 39300-70-4, Lithium nickel oxide 56525-42-9, Methyl propyl carbonate 90076-65-6 131651-65-5, Lithium nonafluorobutanesulfonate 162684-16-4, Lithium manganese nickel oxide 193215-00-8, Cobalt lithiummanganese nickel oxide Co0.1LiMn0.2Ni0.7O2
(**electrolyte** for lithium **battery**)

IT **67-71-0**, Methyl sulfone **77-77-0**, Vinyl sulfone **78-67-1**, 2,2'-Azobisisobutyronitrile 94-36-0, Benzoyl peroxide, uses 105-64-6, Diisopropyl peroxy dicarbonate 105-74-8, Lauroyl peroxide **126-33-0**, Tetramethylene sulfone **127-63-9**, Phenyl sulfone **620-32-6**, Benzyl sulfone 1561-49-5, Dicyclohexylperoxy dicarbonate 1712-87-4, m-Toluoyl peroxide 3006-82-4, tert-Butylperoxy-2-ethyl hexanoate 14666-78-5 15520-11-3, Bis(4-tert-butylcyclohexyl)peroxy dicarbonate 26748-41-4 **28452-93-9**, Butadiene sulfone **32752-09-3**, Isobutyl peroxide 92177-99-6, 3,3,5-Trimethylhexanoyl peroxide
(**electrolyte** for lithium **battery**)

IT 79-10-7DP, Acrylic acid, reaction product with dipentaerythritol and ε-caprolactone and butylcarbonic acid 126-58-9DP, Dipentaerythritol, reaction product with ε-caprolactone and acrylic acid and butylcarbonic acid 502-44-3DP, ε-Caprolactone, reaction product with dipentaerythritol and acrylic acid and butylcarbonic acid 10411-26-4DP, MonoButylcarbonate, reaction product with dipentaerythritol and ε-caprolactone and acrylic acid
(**electrolyte** for lithium **battery**)

L56 ANSWER 4 OF 9 HCA COPYRIGHT 2006 ACS on STN

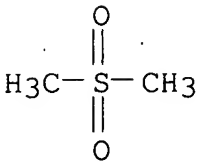
140:149224 Nonaqueous **electrolytic** solution with improved safety for lithium **battery**. Kim, Jun-ho; Lee, Ha-young; Choy, Sang-hoon; Kim, Ho-sung (Samsung SDI Co., Ltd., S. Korea). U.S. Pat. Appl. Publ. US 2004029018 A1 20040212, 12 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-637554 20030811. PRIORITY: KR 2002-47510 20020812.

AB A nonaq. **electrolytic** soln. and a lithium **battery** employing the same include a lithium salt, an org. solvent, and a halogenated benzene compd. The use of the nonaq. **electrolytic** soln. causes formation of a polymer by oxidative decompn. of the **electrolytic** soln. even if a sharp voltage increase occurs due to overcharging of the

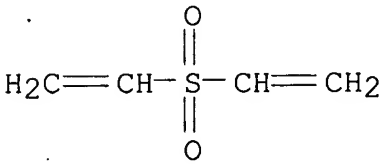
battery, leading to consumption of an overcharge current, thus protecting the **battery**.

IT **67-71-0**, Methyl sulfone **77-77-0**, Vinyl sulfone **126-33-0**, Tetramethylene sulfone **127-63-9**, Phenyl sulfone **620-32-6**, Benzyl sulfone **28452-93-9**, Butadiene sulfone **32752-09-3**, Isobutyl peroxide
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

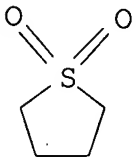
RN 67-71-0 HCA
CN Methane, sulfonylbis- (9CI) (CA INDEX NAME)



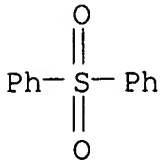
RN 77-77-0 HCA
CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



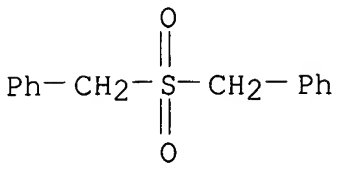
RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 127-63-9 HCA
CN Benzene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



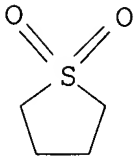
RN 620-32-6 HCA
CN Benzene, 1,1'-[sulfonylbis(methylene)]bis- (9CI) (CA INDEX NAME)



RN 28452-93-9 HCA
CN Thiophene, dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 126-33-0
CMF C4 H8 O2 S



RN 32752-09-3 HCA
CN Peroxide, bis(2-methylpropyl) (9CI) (CA INDEX NAME)

i-Bu—O—O—Bu-i

IC ICM H01M010-40
INCL 429326000; 429200000; 429340000; 429331000; 429332000
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium **battery** nonaq **electrolyte** soln improved safety
IT Esters, uses
Ethers, uses
Hydrocarbons, uses
(C1-20; nonaq. **electrolytic** soln. with improved safety for lithium **battery**)
IT Aromatic hydrocarbons, uses
(C5-20; nonaq. **electrolytic** soln. with improved safety for lithium **battery**)
IT Secondary **batteries**
(lithium; nonaq. **electrolytic** soln. with improved

safety for lithium **battery**)

IT **Battery electrolytes**
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT Polyesters, uses
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT Alcohols, uses
(polyhydric; nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT 3087-37-4, Tetrapropyltitanate
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT 502-44-3, ε-Caprolactone 7439-93-2D, Lithium, salt 12190-79-3, Cobalt lithium oxide colio2
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT 126-58-9DP, Dipentaerythritol, deriv.
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

IT 56-81-5, Glycerol, uses **67-71-0**, Methyl sulfone 71-43-2D, Benzene, halogenated **77-77-0**, Vinyl sulfone 94-36-0, Benzoylperoxide, uses 96-49-1, Ethylene carbonate 105-64-6, Diisopropyl peroxy dicarbonate 105-74-8, Lauroyl peroxide 108-32-7, Propylene carbonate 115-77-5, Pentaerythritol, uses **126-33-0**, Tetramethylene sulfone 126-58-9, DiPentaerythritol **127-63-9**, Phenyl sulfone 456-55-3, Trifluoromethyl phenyl ether 462-06-6, Fluorobenzene **620-32-6**, Benzyl sulfone 623-53-0, Ethyl methyl carbonate 1561-49-5, Dicyclohexyl peroxy dicarbonate 1712-87-4, m-Toluoyl peroxide 2972-19-2 3006-82-4, tert-Butylperoxy-2-ethylhexanoate 9002-88-4, Polyethylene 9003-07-0, Polypropylene 14666-78-5 15520-11-3, Bis(4-tert-butylcyclohexyl) peroxydicarbonate 21151-56-4, Benzene, 1-chloro-4-(chloromethoxy)- 21324-40-3, Lithium hexafluorophosphate **28452-93-9**, Butadiene sulfone **32752-09-3**, Isobutyl peroxide 49717-97-7, 2-Propenoic acid, 2-methyl-, ion(1-) homopolymer, uses 92177-99-6, 3,3,5-Trimethylhexanoylperoxide 651294-25-6 651294-26-7 651294-27-8
(nonaq. **electrolytic** soln. with improved safety for lithium **battery**)

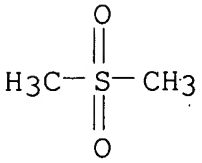
L56 ANSWER 5 OF 9 HCA COPYRIGHT 2006 ACS on STN
139:294681 **Electrolyte** for lithium **battery** to reduce overcharge and improve electrochemical characteristics. Kim, Jun-Ho; Lee, Ha-Young; Choy, Sang-Hoon; Kim, Ho-Sung; Noh, Hyeong-Gon (Samsung SDI Co., Ltd., S. Korea). U.S. Pat. Appl. Publ. US 2003190529 A1 20031009, 19 pp. (English). CODEN: USXXCO.

APPLICATION: US 2003-393294 20030321. PRIORITY: KR 2002-18264 20020403.

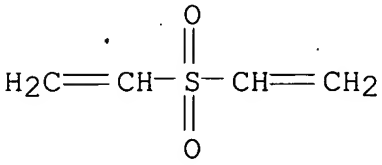
AB An **electrolyte** for a lithium **battery** includes a nonaq. org. solvent, a lithium salt, and an additive comprising (a) a compd. represented by the formula [(R1)nC6H(6-n+m)(X)m], and (b) a compd. selected from the group consisting of a sulfone-based compd., a poly(ester)(meth)acrylate, a polymer of poly(ester)(meth)acrylate, and a mixt. thereof: wherein R1 is a C1-10 alkyl, a C 1-10 alkoxy, or a C6-10 aryl, and preferably a Me, Et, or methoxy, X is a halogen, and m and n are integers ranging from 1 to 5, where m+n is less than or equal to 6.

IT **67-71-0**, Methyl sulfone **77-77-0**, Vinyl sulfone **126-33-0**, Tetramethylene sulfone **127-63-9**, Phenyl sulfone **620-32-6**, Benzyl sulfone **28452-93-9**, Butadiene sulfone **32752-09-3**, Isobutyl peroxide
(**electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

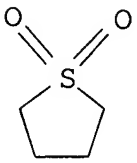
RN 67-71-0 HCA
CN Methane, sulfonylbis- (9CI) (CA INDEX NAME)



RN 77-77-0 HCA
CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)

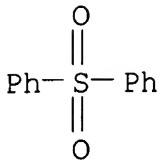


RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)

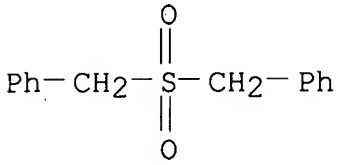


RN 127-63-9 HCA

CN Benzene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



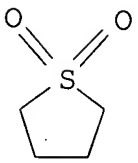
RN 620-32-6 HCA
CN Benzene, 1,1'-[sulfonylbis(methylene)]bis- (9CI) (CA INDEX NAME)



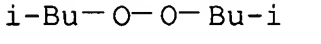
RN 28452-93-9 HCA
CN Thiophene, dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 126-33-0
CMF C4 H8 O2 S



RN 32752-09-3 HCA
CN Peroxide, bis(2-methylpropyl) (9CI) (CA INDEX NAME)



IC ICM H01M006-18
INCL 429307000; 429309000; 429326000; 429322000; 429323000; 429330000
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium **battery electrolyte** overcharge lowering
IT **Battery electrolytes**
(**electrolyte** for lithium **battery** to reduce

overcharge and improve electrochem. characteristics)

IT Secondary **batteries**
(lithium; **electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

IT Peroxides, uses
(org.; **electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

IT Alcohols, uses
(trihydric; **electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

IT 3087-37-4, Tetrapropyltitanate
(**electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

IT 71-43-2, Benzene, uses 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 108-88-3, Toluene, uses 462-06-6, Fluorobenzene 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 1330-20-7, Xylene, uses 4437-85-8, Butylene carbonate 7447-41-8, Lithium chloride (LiCl), uses 7791-03-9, Lithium perchlorate 10377-51-2, Lithium iodide (LiI) 12355-58-7, Lithium aluminate (Li5AlO4) 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 27359-10-0, Trifluorotoluene 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate 90076-65-6 131651-65-5, Lithium perfluorobutanesulfonate
(**electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

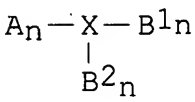
IT 126-58-9DP, Dipentaerythritol, reaction product with ε-caprolactone 502-44-3DP, ε-Caprolactone, reaction product with dipentaerythritol 609772-45-4P
(**electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

IT 56-81-5, Glycerol, uses **67-71-0**, Methyl sulfone **77-77-0**, Vinyl sulfone 79-10-7D, Acrylic acid, ω-fatty acid esters C2-C21 79-41-4D, Methacrylic acid, ω-fatty acid esters C2-C21 94-36-0, Benzoyl peroxide, uses 104-92-7, 4-Bromoanisole 105-64-6, Diisopropyl peroxy dicarbonate 105-74-8, Lauroyl peroxide **126-33-0**, Tetramethylene sulfone **127-63-9**, Phenyl sulfone 149-32-6, Erythritol 452-10-8, 2,4-Difluoroanisole 456-49-5, 3-Fluoroanisole 459-60-9, 4-Fluoroanisole **620-32-6**, Benzyl sulfone 623-12-1, 4-Chloroanisole 1561-49-5, Dicyclohexyl peroxy dicarbonate 1712-87-4, m-Toluoyl peroxide 2398-37-0, 3-Bromoanisole 2845-89-8, 3-Chloroanisole 3006-82-4, tert-Butylperoxy-2-ethyl-hexanoate 14666-78-5 15520-11-3, Bis(4-tert-butylcyclohexyl)peroxy dicarbonate **28452-93-9**,

Butadiene sulfone **32752-09-3**, Isobutyl peroxide 92177-99-6, 3,3,5-Trimethylhexanoyl peroxide 93343-10-3, 3,5-Difluoroanisole 202925-08-4, 3-Chloro-5-fluoroanisole 609365-67-5
(**electrolyte** for lithium **battery** to reduce overcharge and improve electrochem. characteristics)

L56 ANSWER 6 OF 9 HCA COPYRIGHT 2006 ACS on STN
131:7556 Fire-resistant gas generating **battery electrolytes**. Narang, Subhash; Ventura, Susanna; Cox, Philip (SRI International, USA). PCT Int. Appl. WO 9928987 A1 19990610, 36 pp. DESIGNATED STATES: W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US25466 19981201. PRIORITY: US 1997-67226 19971202.

GI



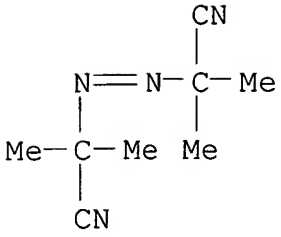
I

AB A compd. that generates a fire-retardant gas upon decompn. has general structure (I) wherein, X is N, C, S, NO, N2, CO, SO; A is substantially any org. moiety including alkyl, aryl, alkoxy, cyclic, fused cyclic, heteroatoms, ketals, acetals or alcs. B1 and B2 are substantially any org. moiety including alkyl, aryl, alkoxy, cyclic, fused cyclic, heteroatoms, ketals, acetals or alcs., also including oxygen, hydrogen and null; and n is an integer from 0-100. Preferred gases generated thereby include CO, SO2, SO3, NO, N2O, NO2 and N2. It is also preferred that the generated gas assists in formation of a solid **electrolyte** interface (SEI) between the **electrolyte** and at least one of the electrodes. It is most preferred that the cell have a cond. greater than 10-3 S/cm.

IT **78-67-1**, Azobis(isobutyronitrile) **28452-93-9**, Butadiene sulfone
(**electrolyte** additive; fire-resistant gas generating **battery electrolytes**)

RN 78-67-1 HCA

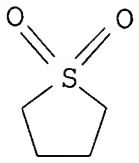
CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



RN 28452-93-9 HCA
CN Thiophene, dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 126-33-0
CMF C4 H8 O2 S



IC ICM H01M010-40
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
ST **battery electrolyte** fire resistant gas generation
IT Azo compounds
Azoxy compounds
Nitrites
Sulfates, uses
Sulfites
Sulfones
(**electrolyte** additive; fire-resistant gas generating **battery electrolytes**)
IT **Battery electrolytes**
Fire-resistant materials
(fire-resistant gas generating **battery electrolytes**)
IT Fluoropolymers, uses
(fire-resistant gas generating **battery electrolytes**)
IT Secondary **batteries**
(lithium; fire-resistant gas generating **battery**

electrolytes)

IT **78-67-1**, Azobis(isobutyronitrile) 78-82-0, Isopropyl nitrile 543-29-3, Isobutyl nitrate 822-38-8, Ethylene trithiocarbonate 3741-38-6, Ethylene sulfite 25843-45-2, Azoxymethane 28322-92-1 **28452-93-9**, Butadiene sulfone
(**electrolyte** additive; fire-resistant gas generating **battery electrolytes**)

IT 7439-93-2, Lithium, uses 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide limn2o4 12068-85-8, Iron disulfide 52627-24-4, Cobalt lithium oxide
(fire-resistant gas generating **battery electrolytes**)

IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 21324-40-3, Lithium hexafluorophosphate
(fire-resistant gas generating **battery electrolytes**)

IT 630-08-0, Carbon monoxide, formation (nonpreparative) 7446-09-5, Sulfur dioxide, formation (nonpreparative) 7446-11-9, Sulfur trioxide, formation (nonpreparative) 7727-37-9, Nitrogen, formation (nonpreparative) 10024-97-2, Nitrogen oxide (N2O), formation (nonpreparative) 10102-43-9, Nitric oxide, formation (nonpreparative) 10102-44-0, Nitrogen dioxide, formation (nonpreparative)
(fire-resistant gas generating **battery electrolytes**)

IT 78-40-0, Triethyl phosphate 24937-79-9
(fire-resistant gas generating **battery electrolytes**)

L56 ANSWER 7 OF 9 HCA COPYRIGHT 2006 ACS on STN

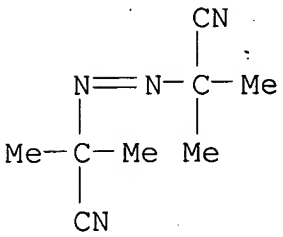
126:114265 Toxicity assessment of the samples from water environment using cultured mammalian cells. Kunimoto, Manabu; Yasuhara, Akio; Soma, Yuko; Nakasugi, Osami (Environmental Health Sciences Division, National Institute Environmental Studies, Tsukuba, 305, Japan). Mizu Kankyo Gakkaishi, 19(11), 855-860 (English) 1996. CODEN: MKGAEY. ISSN: 0916-8958. Publisher: Nippon Mizu Kankyo Gakkai.

AB To evaluate the toxicity other than mutagenicity or carcinogenicity present in the water environment, in vitro cytotoxicity tests using cultured mammalian cells were utilized. Cytotoxicity was estd. based on the changes in viable **cell** nos. of **primary** rat cerebellar **cells**, rat pheochromocytoma cell PC 12h, and normal rat kidney epithelial cell NRK-52E. Evaluation of these in vitro systems was performed by testing ref. chems. proposed by MEIC (Multicenter Evaluation of In Vitro Cytotoxicity), an international program for the validation of in vitro cytotoxicity tests. When cells in culture were exposed to landfill leachate for 48 h, viable cell nos. decreased dose dependently. However, fractions prepd. by condensation and extn.

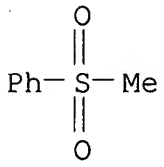
from the leachates showed much less effects on the viable cell nos. Their individual cytotoxicity did not account for that of unfractionated leachate, suggesting that component(s) with higher cytotoxicity may not be successfully recovered during the condensation and extn. process. Among the silica-gel column fractions of acetone-exts. of sediment samples, fractions eluted with acetone showed the highest cytotoxicity. These results indicate that the cytotoxicity of water samples like landfill leachates or of their exts. can be detected with the present assay system but toxic components may not be recovered quant. during the condensation and extn. process.

IT **78-67-1**, α,α'-Azobis(isobutyronitrile)
3112-85-4, Methyl phenyl sulfone
(toxicity assessment of the samples from water environment using cultured mammalian cells)

RN 78-67-1 HCA
CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



RN 3112-85-4 HCA
CN Benzene, (methylsulfonyl)- (9CI) (CA INDEX NAME)



CC 4-1 (Toxicology)
Section cross-reference(s): 61

IT 50-06-6, Phenobarbital, biological studies 50-48-6, Amitriptyline 50-54-4, Quinidine sulfate 50-63-5, Chloroquine phosphate 50-78-2, Acetyl salicylic acid 54-11-5, Nicotine 54-85-3, Isoniazid 55-48-1, Atropine sulfate 56-23-5, biological studies 56-75-7, Chloramphenicol 57-41-0, Phenytoin 58-08-2, Caffeine, biological studies 58-55-9, Theophylline, biological studies 58-89-9, Lindane 60-13-9, Amphetamine sulfate 62-76-0, Sodium oxalate 64-17-5, Ethanol, biological studies 67-56-1, Methanol, biological studies 67-63-0, Isopropyl alcohol, biological studies

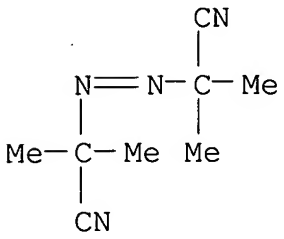
67-66-3, Chloroform, biological studies 70-30-4, Hexachlorophene 71-55-6, 1,1,1-Trichloroethane 75-09-2, Dichloromethane, biological studies **78-67-1**, α,α'-Azobis(isobutyronitrile) 81-81-2, Warfarin 84-74-2, Dibutyl phthalate 87-86-5, Pentachlorophenol 94-75-7, biological studies 103-90-2 106-46-7, 1,4-Dichlorobenzene 107-21-1, 1,2-Ethanediol, biological studies 108-95-2, Phenol, biological studies 110-67-8, 3-Methoxypropanenitrile 110-88-3, Trioxane, biological studies 111-76-2, 2-Butoxyethanol 112-49-2, Triethylene glycol dimethyl ether 115-96-8, Tris(2-chloroethyl)phosphate 121-75-5 123-91-1, 1,4-Dioxane, biological studies 127-19-5 130-61-0, Thioridazine hydrochloride 151-50-8, Potassium cyanide 152-11-4, Verapamil hydrochloride 318-98-9, Propranolol hydrochloride 341-69-5, Orphenadrine hydrochloride 439-14-5, Diazepam 469-62-5, Dextropropoxyphene 615-58-7, 2,4-Dibromophenol 632-22-4, Tetramethylurea 1327-53-3, Arsenic trioxide 1330-20-7, Xylene, biological studies **3112-85-4**, Methyl phenyl sulfone 4320-85-8 4685-14-7, Paraquat 6970-56-5 7326-46-7, Tetrahydro-2-methyl-2-furanol 7446-18-6, Thallium sulfate 7447-40-7, Potassium chloride, biological studies 7487-94-7, Mercuric chloride, biological studies 7647-14-5, Sodium chloride (NaCl), biological studies 7681-49-4, Sodium fluoride, biological studies 7720-78-7, Ferrous sulfate 7758-98-7, Cupric sulfate, biological studies 10022-31-8, Barium nitrate 10377-48-7, Lithium sulfate 13423-22-8 20830-75-5, Digoxin 37306-44-8, Triazole 53778-61-3 54063-15-9 74498-88-7, 1-Methoxy-2-(methoxymethoxy)ethane
(toxicity assessment of the samples from water environment using cultured mammalian cells)

L56 ANSWER 8 OF 9 HCA COPYRIGHT 2006 ACS on STN

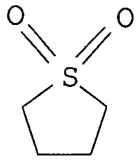
126:92052 Catalyst-containing solid **electrolytes** and **batteries** using these **electrolytes**.
Chaloner-Gill, Benjamin; Olsen, Ib I.; Saidi, Eileen S. (USA). U.S. US 5580680 A 19961203, 8 pp. (English). CODEN: USXXAM. APPLICATION: US 1994-267066 19940627.

AB The **electrolytes** include a 1st catalyst that is capable of initiating the polymn. of solvent components at elevated temps. to increase the resistance (or impedance) of the solid **electrolyte** and thereby prevent thermal runaway and/or a 2nd catalyst that is capable of initiating the polymn. of flammable substances (e.g., olefins) in the solvent. To assure that the catalysts do not prematurely initiate polymn. below a certain temp., the catalysts may be microencapsulated within a heat-sensitive material that disintegrates or dissolve at a predetd. elevated temp. to release the catalysts. Microencapsulation permits the controlled release of the catalysts into the **electrolyte** under the appropriate conditions.

IT **78-67-1**, Azobisisobutyronitrile
(polymn. catalyst for **battery** solid **electrolytes**)
RN 78-67-1 HCA
CN Propanenitrile, 2,2'-azobis[2-methyl- (9CI) (CA INDEX NAME)



IT **126-33-0**, Sulfolane
(polymn. catalyst for **battery** solid **electrolytes** contg. solvent of)
RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



IC ICM H01M006-16
INCL 429192000
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 37
ST **battery** solid **electrolyte** solvent polymn catalyst; flammable substance polymn catalyst **battery electrolyte**; safety **battery** polymn catalyst **electrolyte**
IT Polymerization catalysts
(Ziegler-Natta; for **battery** solid **electrolytes**)
IT Polymerization catalysts
(**battery** solid **electrolytes** contg.)
IT **Battery electrolytes**
(contg. polymn. catalyst)
IT Secondary **batteries**
(lithium; with polymn. catalysts for safety)
IT Safety
(of lithium **batteries** with polymn. catalysts-contg.

solid **electrolytes**)

IT Bronsted acids
(polymn. catalyst for **battery** solid **electrolytes**)

IT **78-67-1**, Azobisisobutyronitrile 94-36-0, Benzoyl peroxide, uses 110-22-5, Acetyl peroxide 7440-23-5, Sodium, uses 7637-07-2, Boron trifluoride, uses
(polymn. catalyst for **battery** solid **electrolytes**)

IT 67-68-5, uses 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 110-71-4, Glyme 111-96-6, Diglyme 112-49-2, Triglyme **126-33-0**, Sulfolane 143-24-8, Tetraglyme 646-06-0, Dioxolane
(polymn. catalyst for **battery** solid **electrolytes** contg. solvent of)

L56 ANSWER 9 OF 9 HCA COPYRIGHT 2006 ACS on STN
48:25121 Original Reference No. 48:4581c-f Tertiary alkyl peroxides. (N. V. de Bataafsche Petroleum Maatschappij). GB 688937 19530318 (Unavailable). APPLICATION: GB .

AB A continuous process produces tert-alkyl peroxides by **electrolytic** synthesis of a peroxy acid and reaction with a tertiary alkylating agent. The latter is a tertiary alc., tert-alkyl ester of a mineral acid, or a mixt. of an olefin and an acid which will produce either of these. **Electrolytic cells** contg. bright Pt anodes and Alundum diaphragms to sep. the anolyte and catholyte chambers are arranged in cascade. The **electrolyte**, a 50% aq. H_2SO_4 soln. contg. about 0.05% HCl, is passed continuously through the anolyte compartments, residing 1-2 min. in each. The av. cell potential is 12 v., the c.d. 100 amp./sq. dm. anode surface, and the current concn. 750 amp./l. anolyte. A soln. contg. about 21% peroxysulfuric acid, 29% H_2SO_4, and 50% water is produced, mixed continuously with 90% H_2SO_4, and passed into a stream of Me_3COH at 75°; after 20 min. residence, the org. layer, contg. more than 99% $(Me_3C)_2O_2$, is sepd., dried, and neutralized. The tert-alkyl peroxides are useful as polymn. catalysts, Diesel fuel additives, and coupling or alkylating agents.

IT **110-05-4**, tert-Butyl peroxide
(manuf. of)

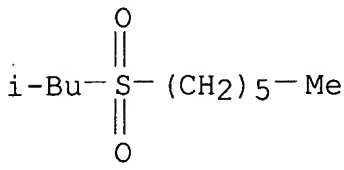
RN 110-05-4 HCA

CN Peroxide, bis(1,1-dimethylethyl) (9CI) (CA INDEX NAME)

t-Bu—O—O—Bu-t

IT **873408-04-9**, Sulfone, hexyl isobutyl
(prepn. of)

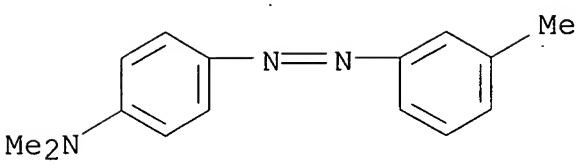
RN 873408-04-9 HCA
CN Sulfone, hexyl isobutyl (5CI) (CA INDEX NAME)



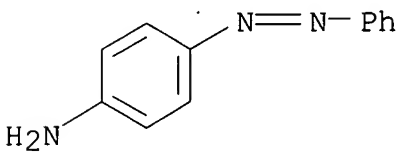
CC 10 (Organic Chemistry)
IT **110-05-4**, tert-Butyl peroxide
(manuf. of)
IT 640279-07-8, Sulfide, hexyl isobutyl 708255-15-6, 2-Hexanol, 1-(isobutylthio)- **873408-04-9**, Sulfone, hexyl isobutyl
(prepn. of)

=> D L57 1-10 CBIB ABS HITSTR HITIND

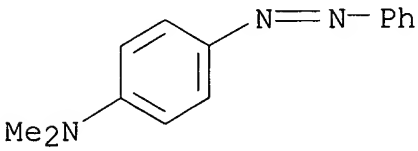
L57 ANSWER 1 OF 10 HCA COPYRIGHT 2006 ACS on STN
144:144371 Evaluation of the ability of a **battery** of three in vitro genotoxicity tests to discriminate rodent carcinogens and non-carcinogens. I. Sensitivity, specificity and relative predictivity. [Erratum to document cited in CA143:243161]. Kirkland, David; Aardema, Marilyn; Henderson, Leigh; Mueller, Lutz (Covance Laboratories Limited, Harrogate, HG3 1PY, UK). Mutation Research, 588(1), 70 (English) 2005. CODEN: MUREAV. ISSN: 0027-5107. Publisher: Elsevier B.V..
AB On the title page, the URL of the website address in the open star footnote should read: www.lhasalimited.org/cgx. This is where the appendixes have been posted.
IT **55-80-1**, 3'-Methyl-4-dimethylaminoazobenzene **60-09-3**, 4-Aminoazobenzene **60-11-7** **77-79-2**, 3-Sulfolene **92-87-5**, Benzidine **95-14-7**, 1H-Benzotriazole **97-56-3**, C.I. Solvent yellow 3 **103-33-3**, Azobenzene **119-93-7**, 3,3'-Dimethylbenzidine **122-66-7**, Hydrazobenzene
(evaluation of sensitivity, specificity and relative predictivity of **battery** of three in vitro genotoxicity tests to discriminate rodent carcinogens and non-carcinogens (Erratum))
RN 55-80-1 HCA
CN Benzenamine, N,N-dimethyl-4-[(3-methylphenyl)azo]- (9CI) (CA INDEX NAME)



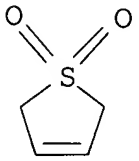
RN 60-09-3 HCA
CN Benzenamine, 4-(phenylazo)- (9CI) (CA INDEX NAME)



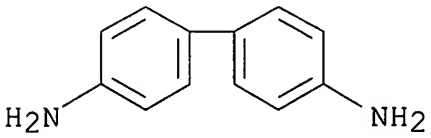
RN 60-11-7 HCA
CN Benzenamine, N,N-dimethyl-4-(phenylazo)- (9CI) (CA INDEX NAME)



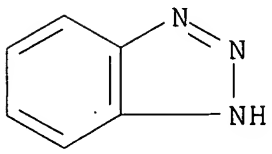
RN 77-79-2 HCA
CN Thiophene, 2,5-dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



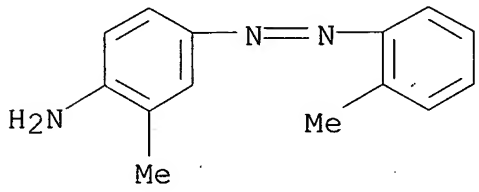
RN 92-87-5 HCA
CN [1,1'-Biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)



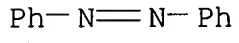
RN 95-14-7 HCA
CN 1H-Benzotriazole (8CI, 9CI) (CA INDEX NAME)



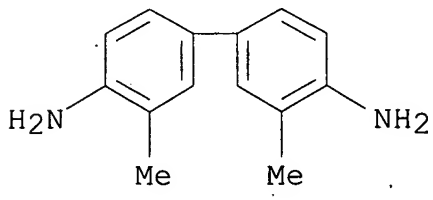
RN 97-56-3 HCA
CN Benzenamine, 2-methyl-4-[(2-methylphenyl)azo]- (9CI) (CA INDEX NAME)



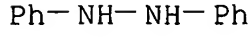
RN 103-33-3 HCA
CN Diazene, diphenyl- (9CI) (CA INDEX NAME)



RN 119-93-7 HCA
CN [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- (9CI) (CA INDEX NAME)



RN 122-66-7 HCA
CN Hydrazine, 1,2-diphenyl- (9CI) (CA INDEX NAME)



CC 4-1 (Toxicology)
(evaluation of sensitivity, specificity and relative predictivity of **battery** of three in vitro genotoxicity tests to

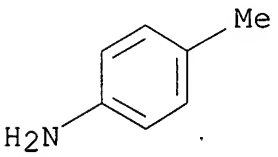
discriminate rodent carcinogens and non-carcinogens (Erratum))

L57 ANSWER 2 OF 10 HCA COPYRIGHT 2006 ACS on STN
143:289413 Nonaqueous **electrolytes** and nonaqueous **electrolyte** secondary **batteries**. Hayashi, Takeshi; Hinohara, Akio; Yajima, Toru; Inada, Shusuke; Fukui, Asuka (Mitsui Chemicals Inc., Japan; Toshiba Corp.). Jpn. Kokai Tokkyo Koho JP 2005243490 A2 20050908, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2004-53284 20040227.

AB The **electrolytes** comprise nonaq. solvents including benzene halides and contg. <100 ppm aminobenzenes as impurities. Nonaq. **electrolyte** secondary **batteries** including the said **electrolytes** are also claimed. Small-sized **batteries** with large capacity and excellent overcharging safety are obtained.

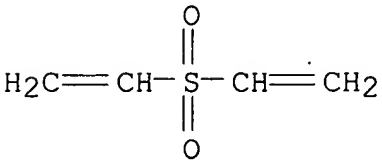
IT **106-49-0**, 4-Aminotoluene, occurrence
(controlled impurity; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

RN 106-49-0 HCA
CN Benzenamine, 4-methyl- (9CI) (CA INDEX NAME)



IT **77-77-0**, Divinylsulfone
(**electrolyte** solvent; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

RN 77-77-0 HCA
CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



IC ICM H01M010-40
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq **electrolyte** secondary **battery** overcharging safety; aminobenzene impurity controlled nonaq **electrolyte**

secondary **battery**; halobenzene **electrolyte** solvent secondary **battery**

IT Carbonates, uses
(**electrolyte** solvents; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT Secondary **batteries**
(nonaq. **electrolytes**; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT **Battery electrolytes**
(solvents; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT 95-53-4, 2-Aminotoluene, occurrence 95-78-3 **106-49-0**, 4-Aminotoluene, occurrence 1330-20-7D, Xylene, amino derivs. 121536-13-8, Aminotoluene
(controlled impurity; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
(**electrolyte** salt; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT **77-77-0**, Divinylsulfone 95-49-8, o-Chlorotoluene 95-52-3, o-Fluorotoluene 96-48-0, γ-Butyrolactone 106-43-4, p-Chlorotoluene 108-88-3D, Toluene, halides 696-01-5, 2-Fluoro-p-xylene 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propanesultone 1330-20-7D, Xylene, halides 30553-06-1
(**electrolyte** solvent; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

IT 71-43-2D, Benzene, derivs., halides
(**electrolyte** solvents; nonaq. **electrolytes** with aminobenzene-controlled halobenzene solvents for secondary **batteries** with overcharging safety)

L57 ANSWER 3 OF 10 HCA COPYRIGHT 2006 ACS on STN

143:243161 Evaluation of the ability of a **battery** of three in vitro genotoxicity tests to discriminate rodent carcinogens and non-carcinogens. I. Sensitivity, specificity and relative predictivity. Kirkland, David; Aardema, Marilyn; Henderson, Leigh; Mueller, Lutz (Covance Laboratories Limited, Harrogate, HG3 1PY, UK). Mutation Research, 584(1-2), 1-256 (English) 2005. CODEN: MUREAV. ISSN: 0027-5107. Publisher: Elsevier B.V..

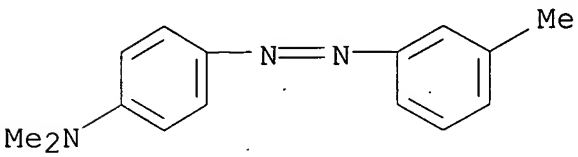
AB The performance of a **battery** of three of the most commonly used in vitro genotoxicity tests, i.e., Ames + mouse lymphoma assay

(MLA) + in vitro micronucleus (MN) or chromosomal aberrations (CA) test, was evaluated for its ability to discriminate rodent carcinogens and non-carcinogens, from a large database of over 700 chems. compiled from the CPDB ("Gold"), NTP, IARC and other publications. We re-evaluated many (113 MLA and 30 CA) previously published genotoxicity results in order to categories the performance of these assays using the response categories we established. The sensitivity of the three-test **battery** was high. Of the 553 carcinogens for which there were valid genotoxicity data, 93% of the rodent carcinogens evaluated in at least one assay gave pos. results in at least one of the three tests. Combinations of two and three test systems had greater sensitivity than individual tests resulting in sensitivities of around 90% or more, depending on test combination. Only 19 carcinogens (out of 206 tested in all three tests, considering CA and MN as alternatives) gave consistently neg. results in a full three-test **battery**. Most were either carcinogenic via a non-genotoxic mechanism (liver enzyme inducers, peroxisome proliferators, hormonal carcinogens) considered not necessarily relevant for humans, or were extremely weak (presumed) genotoxic carcinogens (e.g. N-nitrosodiphenylamine). Two carcinogens (5-chloro-o-toluidine, 1,1,2,2-tetrachloroethane) may have a genotoxic element to their carcinogenicity and may have been expected to produce pos. results somewhere in the **battery**. We identified 183 chems. that were non-carcinogenic after testing in both male and female rats and mice. There were genotoxicity data on 177 of these. The specificity of the Ames test was reasonable (73.9%), but all mammalian cell tests had very low specificity (i.e. below 45%), and this declined to extremely low levels in combinations of two and three test systems. When all three tests were performed, 75-95% of non-carcinogens gave pos. (i.e. false pos.) results in at least one test in the **battery**. The extremely low specificity highlights the importance of understanding the mechanism by which genotoxicity may be induced (whether it is relevant for the whole animal or human) and using wt. of evidence approaches to assess the carcinogenic risk from a pos. genotoxicity signal. It also highlights deficiencies in the current prediction from and understanding of such in vitro results for the in vivo situation. It may even signal the need for either a reassessment of the conditions and criteria for pos. results (cytotoxicity, soly., etc.) or the development and use of a completely new set of in vitro tests (e.g. mutation in transgenic cell lines, systems with inherent metabolic activity avoiding the use of S9, measurement of genetic changes in more cancer-relevant genes or hotspots of genes, etc.). It was very difficult to assess the performance of the in vitro MN test, particularly in combination with other assays, because the published database for this assay is relatively small at this time. The specificity values for the in vitro MN assay may improve if data

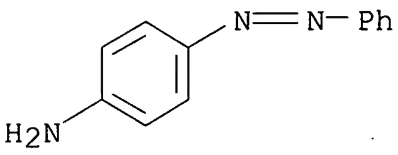
from a larger proportion of the known non-carcinogens becomes available, and a larger published database of results with the MN assay is urgently needed if this test is to be appreciated for regulatory use. However, specificity levels of <50% will still be unacceptable. Despite these issues, by adopting a relative predictivity (RP) measure (ratio of real:false results), it was possible to establish that pos. results in all three tests indicate the chem. is greater than three times more likely to be a rodent carcinogen than a non-carcinogen. Likewise, neg. results in all three tests indicate the chem. is greater than two times more likely to be a rodent non-carcinogen than a carcinogen. This RP measure is considered a useful tool for industry to assess the likelihood of a chem. possessing carcinogenic potential from **batteries** of pos. or neg. results.

IT **55-80-1**, 3'-Methyl-4-dimethylaminoazobenzene **60-09-3**, 4-Aminoazobenzene **60-11-7 77-79-2**, 3-Sulfolene **92-87-5**, Benzidine **95-14-7**, 1H-Benzotriazole **97-56-3**, C.I. Solvent yellow 3 **103-33-3**, Azobenzene **119-93-7**, 3,3'-Dimethylbenzidine **122-66-7**, Hydrazobenzene
(evaluation of sensitivity, specificity and relative predictivity of **battery** of three in vitro genotoxicity tests to discriminate rodent carcinogens and non-carcinogens)

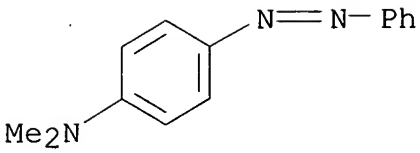
RN 55-80-1 HCA
CN Benzenamine, N,N-dimethyl-4-[(3-methylphenyl)azo]- (9CI) (CA INDEX NAME)



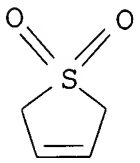
RN 60-09-3 HCA
CN Benzenamine, 4-(phenylazo)- (9CI) (CA INDEX NAME)



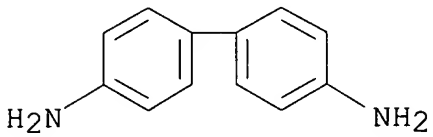
RN 60-11-7 HCA
CN Benzenamine, N,N-dimethyl-4-(phenylazo)- (9CI) (CA INDEX NAME)



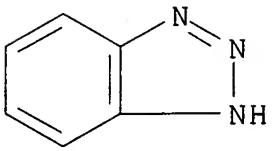
RN 77-79-2 HCA
CN Thiophene, 2,5-dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



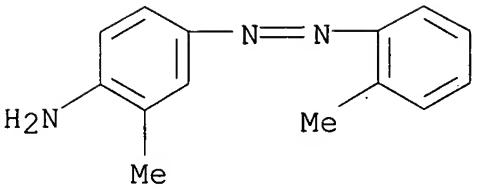
RN 92-87-5 HCA
CN [1,1'-Biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)



RN 95-14-7 HCA
CN 1H-Benzotriazole (8CI, 9CI) (CA INDEX NAME)



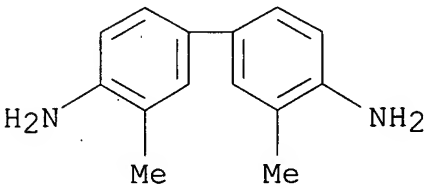
RN 97-56-3 HCA
CN Benzenamine, 2-methyl-4-[(2-methylphenyl)azo]- (9CI) (CA INDEX NAME)



RN 103-33-3 HCA
CN Diazene, diphenyl- (9CI) (CA INDEX NAME)

Ph—N=N—Ph

RN 119-93-7 HCA
CN [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- (9CI) (CA INDEX NAME)



RN 122-66-7 HCA
CN Hydrazine, 1,2-diphenyl- (9CI) (CA INDEX NAME)

Ph—NH—NH—Ph

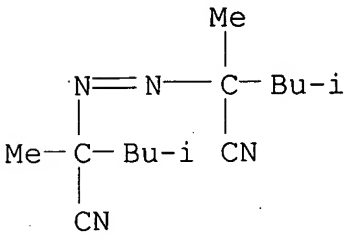
CC 4-1 (Toxicology)
(evaluation of sensitivity, specificity and relative predictivity of **battery** of three in vitro genotoxicity tests to discriminate rodent carcinogens and non-carcinogens)

L57 ANSWER 4 OF 10 HCA COPYRIGHT 2006 ACS on STN
142:264348 **Electrolyte** for rechargeable lithium **battery**. Lee, Yong-Beom; Song, Eui-Hwan; Kim, Kwang-Sup; Earmme, Tae-Shik; Kim, You-Mee (Samsung SDI Co., Ltd., S. Korea). Eur. Pat. Appl. EP 1508934 A1 20050223, 32 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR. (English). CODEN: EPXXDW. APPLICATION: EP 2004-90320 20040819. PRIORITY: KR 2003-57716 20030820; KR 2004-5874 20040129.
AB Disclosed is an **electrolyte** for a rechargeable lithium **battery**, including a mixt. of org. solvents including a

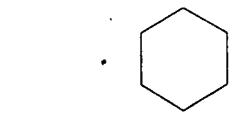
cyclic solvent and a nitrile-based solvent represented by the formula R-C.tplbond.N (R is from C1-10 aliph. hydrocarbons, C1-10 halogenated aliph. hydrocarbons, C6-10 arom. hydrocarbons, and C6-10 halogenated arom. hydrocarbons) and a lithium salt.

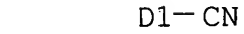
IT **4419-11-8**, 2,2'-Azobis(2,4-dimethylvaleronitrile)
25551-14-8
(**electrolyte** for rechargeable lithium **battery**
)

RN 4419-11-8 HCA
CN Pentanenitrile, 2,2'-azobis[2,4-dimethyl- (9CI) (CA INDEX NAME)



RN 25551-14-8 HCA
CN Cyclohexanecarbonitrile, azobis- (9CI) (CA INDEX NAME)

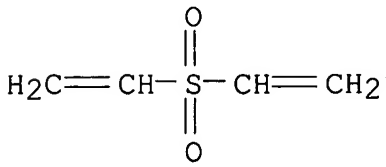




1/2 (D1—N═N—D1)

IT **77-77-0**, DiVinyl sulfone
(**electrolyte** for rechargeable lithium **battery**
)

RN 77-77-0 HCA
CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



IC ICM H01M010-40
CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST **electrolyte** rechargeable lithium **battery**
IT Nitriles, uses
(aliph., C1-10; **electrolyte** for rechargeable lithium **battery**)
IT Nitriles, uses
(arom., C6-10; **electrolyte** for rechargeable lithium **battery**)
IT **Battery electrolytes**
(**electrolyte** for rechargeable lithium **battery**)
IT Lactones
(**electrolyte** for rechargeable lithium **battery**)
IT Secondary **batteries**
(lithium; **electrolyte** for rechargeable lithium **battery**)
IT Peroxides, uses
(org.; **electrolyte** for rechargeable lithium **battery**)
IT 94-36-0, Dibenzoyl peroxide, processes 105-74-8, Dilauroyl peroxide 107-71-1, tert-Butylperoxy acetate 109-13-7, tert-Butylperoxyisobutyrate 110-22-5, Diacetyl peroxide 614-45-9, tert-Butylperoxy benzoate 686-31-7, tert-Amylperoxy 2-ethylhexanoate 927-07-1, tert-Butyl peroxypivalate 2372-21-6, tert-Butyl peroxy isopropyl carbonate 3006-82-4, tert-Butyl peroxy-2-ethyl hexanoate 3851-87-4, Bis(3,5,5-trimethyl)hexanoyl peroxide **4419-11-8**, 2,2'-Azobis(2,4-dimethylvaleronitrile) 13122-18-4, tert-Butylperoxy 3,5,5-trimethylhexanoate 15518-51-1, Diethylene glycol bis(tert-butylperoxycarbonate) 15520-11-3, Di(4-tert-butylcyclohexyl)peroxydicarbonate **25551-14-8** 26748-38-9, tert-Butyl peroxy neoheptanoate 26748-41-4, tert-Butyl peroxy neodecanoate 29240-17-3, tert-Amyl peroxypivalate 34443-12-4, tert-Butyl peroxy 2-ethylhexyl carbonate 36536-42-2, 1,6-Hexanediol bis(tert-butyl peroxycarbonate) 51240-95-0, 1,1,3,3-Tetramethylbutyl peroxy neodecanoate 51938-28-4, tert-Hexylperoxypivalate 52238-68-3, Bis(3-methoxybutyl) peroxydicarbonate 68860-54-8 96989-15-0 845717-44-4
(**electrolyte** for rechargeable lithium **battery**)
IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 106-70-7, Methyl hexanoate 107-12-0, Propionitrile 107-31-3, Methyl formate 108-29-2, γ-Valerolactone 108-32-7, Propylene carbonate

109-74-0, Butyronitrile 110-59-8, Valeronitrile 124-12-9, Caprylonitrile 140-29-4, Phenylacetonitrile 141-78-6, Ethyl acetate, uses 326-62-5, 2-FluoroPhenylacetonitrile 394-47-8, 2-Fluorobenzonitrile 459-22-3, 4-FluoroPhenylacetonitrile 502-44-3, ε-Caprolactone 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-08-3, Heptanenitrile 630-18-2, tert-Butyl cyanide 695-06-7, γ-Caprolactone 766-05-2, Cyclohexanecarbonitrile 1194-02-1, 4-Fluorobenzonitrile 4254-02-8, Cyclopentanecarbonitrile 4437-85-8, Butylene carbonate 7439-93-2D, Lithium, salt 7791-03-9, Lithium perchlorate 12190-79-3, Cobalt lithium oxide (CoLiO2) 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 57381-51-8, 4-Chloro-2-fluoro-benzonitrile 60702-69-4, 2-Chloro-4-fluoro-benzonitrile 90076-65-6 90240-74-7 127813-79-0 132843-44-8 179802-95-0, Cobalt lithium manganese nickel oxide (Co0.1LiMn0.1Ni0.8O2) 845717-45-5
(**electrolyte** for rechargeable lithium **battery**
)

IT 75-05-8, Acetonitrile, uses **77-77-0**, DiVinyl sulfone 105-64-6, Di-isopropylperoxydicarbonate 628-73-9, Capronitrile 872-36-6, Vinylene carbonate 3741-38-6, Ethylene sulfite 16111-62-9, Bis(2-ethylhexyl) peroxydicarbonate 22537-94-6 71331-99-2, Bis(4-tert-butylcyclohexyl)peroxycarbonate 114435-02-8, Fluoroethylene carbonate
(**electrolyte** for rechargeable lithium **battery**
)

L57 ANSWER 5 OF 10 HCA COPYRIGHT 2006 ACS on STN

140:202430 Salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials. Armand, Michel; Michot, Christophe; Gauthier, Michel; Choquette, Yves (Hydro-Quebec, Can.; Centre National De La Recherche Scientifique (CNRS)). Eur. Pat. Appl. EP 1391952 A2 20040225, 33 pp. DESIGNATED STATES: R: DE, FR, GB, IT. (French). CODEN: EPXXDW. APPLICATION: EP 2003-292436 19971230. PRIORITY: CA 1996-2194127 19961230; CA 1997-2199231 19970305; EP 1997-403188 19971230.

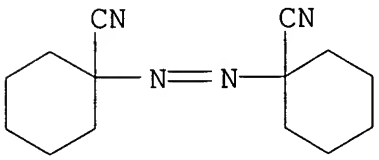
AB This invention describes ionic compds. where the anionic charge is delocalized. One compd. of the invention contains an anionic part assocd. with at least one mono- or multivalent cationic part Mm+, in a no. sufficient to ensure electronic neutrality of the material. M can be a hydronium, nitrosyl NO+, an ammonium NH4+, a metallic cation with valence m, an org. cation having a valence m, or an organometallic cation having valence m. The anionic charge is

carried by a new pentacyclic moiety or deriv. of tetrapentalene carrying electroattractive substituents. The compds. are used notably for ionic conduction, electronic conductors, dyes and colorants, and catalysts for diverse chem. reactions. They can also be used as **electrolytes** in fuel **cells** and **batteries.**

IT **2094-98-6**, 1,1'-Azobis(cyclohexanecarbonitrile)
(salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

RN 2094-98-6 HCA

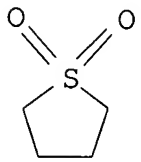
CN Cyclohexanecarbonitrile, 1,1'-azobis- (9CI) (CA INDEX NAME)



IT **126-33-0D**, Sulfolane, derivs.
(solvent for title compds.; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

RN 126-33-0 HCA

CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



IC ICM H01M006-16
ICS H01M010-40

CC **52-2** (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 27, 28, 29, 35, 76

ST pentacyclic tetrapentalene salt charge delocalized anion ionic conduction; alkali alk earth transition metal salt heterocyclic **electrolyte** polymer; **electrochem cell** fuel polyelectrolyte cond soly catalysis fluoropolymer polysiloxane

IT Optical absorption
(by polymer **electrolytes**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Carbon black, uses
(composite electrodes with soft polymer or LiCoO2 and polymer gel

electrolytes, or with acetylene black, VO2 and PEO; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Lithiation
(during **battery** operation; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Polyoxyalkylenes, processes
(**electrolyte** complexes with lithium salts, carbon blacks, (1,2,3-triazolium) ionic liqs., and other materials; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Open circuit potential
(of dye-sensitized solar cells with imidazolium-triazole-iodide **electrolytes**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Ionic conductivity
(of lithium salts in polymer **electrolytes** and polymer gel **electrolytes**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Cyclic voltammetry
(of **secondary battery cells** with polymer gel **electrolytes**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Secondary **batteries**
(salts of pentacyclic or tetrapentalene derived anions for use in; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT Aldol condensation catalysts
Antistatic agents
Coloring materials
Corrosion inhibitors
Dyes
Electron delocalization
Esterification
Friedel-Crafts reaction catalysts
Fuel cell separators
Heterojunction solar cells
Ionic liquids
Michael reaction catalysts
Plasticizers
Polyelectrolytes
Polymer **electrolytes**
Polymerization catalysts
Solubility
Substitution reaction, nucleophilic

Surfactants
(salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 12036-21-4, Vanadium dioxide
(**battery** electrode composites with acetylene black and PEO; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 25322-68-3, Polyethylene oxide
(**electrolyte** complexes with lithium salts, carbon blacks, (1,2,3-triazolium) ionic liqs., and other materials; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 210289-62-6P
(**electrolyte**, ionic liq.; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 7429-90-5, Aluminum, uses
(in **electrochem. cells**, and corrosion of; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
(in gel polymer **electrolyte**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 107-13-1, Acrylonitrile, reactions
(in gel polymer **electrolyte**; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 661461-54-7P
(pure and polymer **electrolytes** with polyethylene oxide; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

IT 76-05-1, reactions 78-94-4, Methyl vinyl ketone, reactions 94-41-7 98-88-4, Benzoyl chloride 100-52-7, Benzaldehyde, reactions 100-66-3, Anisole, reactions 102-52-3, 1,1,3,3-Tetramethoxypropane 106-20-7, Di-2-ethylhexylamine 108-24-7, Acetic anhydride 109-72-8, Butyllithium, reactions 110-61-2, Succinic dinitrile 112-76-5, Stearic acid chloride 121-44-8, Triethylamine, reactions 143-33-9, Sodium cyanide 144-55-8, Sodium bicarbonate, reactions 303-04-8, 2,3-Dichloro-Hexafluoro-2-butene 326-90-9, 4,4,4-Trifluoro-1-(2-furyl)-1,3-butanedione 326-91-0 375-72-4, Perfluorobutanesulfonyl fluoride 407-38-5, 2,2,2-Trifluoroethyl trifluoroacetate 421-83-0, Trifluoromethanesulfonyl chloride 497-19-8, Sodium carbonate, reactions 538-75-0, Dicyclohexylcarbodiimide 542-92-7, Cyclopentadiene, reactions 554-13-2, Lithium carbonate 584-08-7, Potassium carbonate 676-58-4, Methylmagnesium chloride 677-25-8, Ethenesulfonyl

fluoride 692-50-2 693-13-0, 1,3-Diisopropylcarbodiimide 764-93-2, 1-Decyne 765-12-8, Triethylene glycol divinyl ether 917-70-4, Lanthanum acetate 937-14-4, 3-Chloroperoxybenzoic acid 1000-84-6 1068-57-1, Acetylhydrazide 1122-28-7, 4,5-Dicyanoimidazole 1310-58-3, Potassium hydroxide, reactions 1522-22-1, Hexafluoroacetylacetone 1643-19-2, Tetrabutylammonium bromide 1648-99-3 **2094-98-6**, 1,1'-Azobis(cyclohexanecarbonitrile) 2582-30-1, 1-Aminoguanidine bicarbonate 2633-67-2, 4-Styrenesulfonyl chloride 2638-94-0, 4,4'-Azobis(4-cyanovaleric acid) 2893-78-9, Dichloroisocyanuric acid, sodium salt 3804-23-7, Scandium acetate 4546-95-6, 1,2,3-Triazole-4,5-dicarboxylic acid 7447-41-8, Lithium chloride, reactions 7647-01-0, Hydrochloric acid, reactions 7647-14-5, Sodium chloride, reactions 7664-39-3, Hydrofluoric acid, reactions 7757-82-6, Sodium sulfate, reactions 7758-09-0, Potassium nitrite 7782-50-5, Chlorine, reactions 7789-23-3, Potassium fluoride 9002-92-0, Brij 30 13360-57-1 13637-84-8, Chlorosulfonyl fluoride 13781-67-4, 2-(3-Thienyl)ethanol 14635-75-7, Nitrosonium tetrafluoroborate 16090-14-5 17455-13-9, 18-Crown-6 17587-22-3, 1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedione 20583-66-8, 1,1,1,5,5,6,6,7,7,7-Decafluoro-2,4-Heptanedione 26628-22-8, Sodium azide 27070-49-1, 1,2,3-Triazole 31469-15-5, 1-Methoxy-1-(trimethylsilyloxy)-2-methyl-1-propene 39262-22-1 39377-49-6, Copper cyanide 53188-07-1, Trolox 56512-49-3, 4-(Dimethylamino)azobenzene-4'-sulfonyl chloride 65039-09-0, 1-Ethyl-3-methyl-1H-imidazolium chloride 66051-48-7 77968-17-3 81850-46-6 81850-47-7 89183-45-9, Polyaniline hydrochloride 210049-00-6 210289-26-2 210289-55-7 210469-93-5 661461-58-1 661461-61-6
(salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

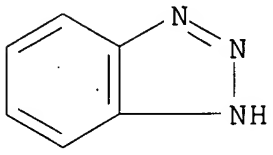
IT **126-33-0D**, Sulfolane, derivs.
(solvent for title compds.; salts of pentacyclic or tetrapentalene derived anions, and their uses as ionic conductive materials)

L57 ANSWER 6 OF 10 HCA COPYRIGHT 2006 ACS on STN

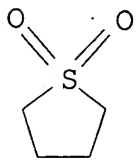
133:66022 Electrochromic devices. Kikuchi, Hideyuki (Murakami Kaimeido K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2000180902 A2 20000630, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-356087 19981215.

AB The devices comprise: an outermost pair of glass substrates; an outer pair of ITO electrodes with a metal (Ag) reflector; an **electrolyte** layer comprising a nonaq. solvent (sulfolane, Pr carbonate, γ-butyrolactone; solute 0.001-20 mol/l), a Li ion source ($LiClO_4$, LiI), a red dye having a redox effect (phenosafranine, safranine T; <0.005 mol/l) and a UV absorber (derivs. of salicylic acid, benzophenone, benzotriazole,

cyanoacrylate); and an electrochromic layer.
IT **95-14-7**, 1H-Benzotriazole **126-33-0**, Sulfolane
(electrochromic devices)
RN 95-14-7 HCA
CN 1H-Benzotriazole (8CI, 9CI) (CA INDEX NAME)



RN 126-33-0 HCA
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



IC ICM G02F001-15
ICS B60R001-04
CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST electrochromic **electrolyte** tungsten oxide lithium red dye
IT Dyes
Electrochromic devices
Electrolytes
Glass substrates
Optical reflectors
Solvents
(electrochromic devices)
IT 69-72-7, Salicylic acid, uses 81-93-6, Phenosafranine
95-14-7, 1H-Benzotriazole 96-48-0, γ-Butyrolactone
119-61-9, Benzophenone, uses **126-33-0**, Sulfolane
131-55-5, 2,2',4,4'-Tetrahydroxybenzophenone 477-73-6, Safranine T
1314-35-8, Tungsten oxide (WO3), uses 7440-22-4, Silver, uses
7791-03-9, Lithium perchlorate (LiClO4) 10377-51-2, Lithium iodide (LiI) 15802-18-3 37226-36-1, Propyl carbonate 50926-11-9, ITO
(electrochromic devices)

L57 ANSWER 7 OF 10 HCA COPYRIGHT 2006 ACS on STN
117:204249 Coulometric generation of hydrogen ions by anodic oxidation of some organic compounds in nitromethane, sulfolane, acetonitrile

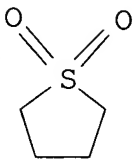
and acetic acid-acetic anhydride. Mihajlovic, R.; Vajgand, V.; Simic, Z. (Fac. Sci., Univ. Kragujevac, Kragujevac, Yugoslavia). Analytica Chimica Acta, 265(1), 35-42 (English) 1992. CODEN: ACACAM. ISSN: 0003-2670.

AB The coulometric generation of hydrogen ions by anodic oxidn. of cyclohexa-1,4-diene, cyclohexa-1,3-diene, 9,10-dihydroanthracene, cyclohexene, and 1,2,3,4-tetrahydronaphthalene in acetonitrile and acetic acid-acetic anhydride (1 + 6, vol./vol.) is described. The coulometric generation of protons by anodic oxidn. of 2,3,4-trihydroxybenzoic acid, some dihydric and trihydric phenols and esters of gallic acid, in nitromethane and sulfolane as solvents is also reported. The current-potential curves recorded for these depolarizers, the titrated bases, indicators and solvents showed that the investigated depolarizers are oxidized at more neg. potentials than the oxidn. potentials of the titrated bases and other components present in the soln. The generated hydrogen ions were used for the titrn. of some org. bases (p-toluidine, triethanolamine, sodium acetate, potassium hydrogen phthalate, pyridine, piperidine, tributylamine, collidine, and 2,2'-bipyridine) with visual and potentiometric end-point detection. The current efficiency was 100% for dienes, 2,3,4- and 3,4,5-trihydroxybenzoic acid, phenols and esters of gallic acid.

IT **126-33-0P**, Sulfolane
(coulometric generation of hydrogen ions by anodic oxidn. of some org. compds. in, for titrn. of org. bases)

RN 126-33-0 HCA

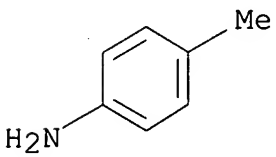
CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



IT **106-49-0**, p-Toluidine, analysis
(titrn. of, with coulometric generated hydrogen ions)

RN 106-49-0 HCA

CN Benzenamine, 4-methyl- (9CI) (CA INDEX NAME)



CC 80-6 (Organic Analytical Chemistry)

Section cross-reference(s): 68, **72**

IT **126-33-0P**, Sulfolane 75-05-8P, Acetonitrile, uses
75-52-5P, Nitromethane, uses
(coulometric generation of hydrogen ions by anodic oxidn. of some org. compds. in, for titrn. of org. bases)

IT 102-71-6, Triethanolamine, analysis 102-82-9, Tributylamine **106-49-0**, p-Toluidine, analysis 110-86-1, Pyridine, analysis 110-89-4, Piperidine, analysis 127-09-3, Sodium acetate 366-18-7, 2,2'-Bipyridine 877-24-7, Potassium hydrogen phthalate 29611-84-5, Collidine
(titrn. of, with coulometric generated hydrogen ions)

L57 ANSWER 8 OF 10 HCA COPYRIGHT 2006 ACS on STN

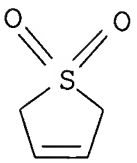
114:242540 Relationship between carcinogenicity in rodents and the induction of sister chromatid exchanges and chromosomal aberrations in Chinese hamster ovary cells. Rosenkranz, Herbert S.; Ennever, Fanny K.; Klopman, Gilles (Dep. Environ. Health Sci., Case West. Reserve Univ., Cleveland, OH, 44106, USA). Mutagenesis, 5(6), 559-71 (English) 1990. CODEN: MUTAEX. ISSN: 0267-8357.

AB Two independent analyses were carried out to compare the induction of sister chromatid exchanges and of chromosomal aberrations as predictors of carcinogenicity. Using both a classical and a Bayesian approach, as well as by anal. of the structural fragments generated by Computer Automated Structure Evaluation, an artificial intelligence system, it is concluded that individually neither of these tests is a satisfactory predictor of carcinogenicity. However, because the anal. revealed that each of the cytogenetic assays responds to a different set of structural features assocd. with carcinogenicity, it can be concluded that the assays can be included in a **battery** of tests to improve predictivity.

IT **77-79-2**, 3-Sulfolene **94-78-0 95-14-7**, 1,2,3-Benzotriazole **103-33-3 122-66-7**
(carcinogenicity of, prediction of)

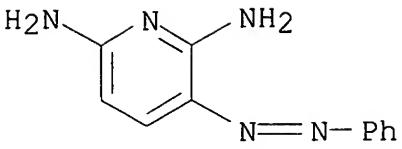
RN 77-79-2 HCA

CN Thiophene, 2,5-dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

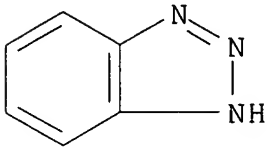


RN 94-78-0 HCA

CN 2,6-Pyridinediamine, 3-(phenylazo)- (9CI) (CA INDEX NAME)



RN 95-14-7 HCA
CN 1H-Benzotriazole (8CI, 9CI) (CA INDEX NAME)



RN 103-33-3 HCA
CN Diazene, diphenyl- (9CI) (CA INDEX NAME)

Ph—N=N—Ph

RN 122-66-7 HCA
CN Hydrazine, 1,2-diphenyl- (9CI) (CA INDEX NAME)

Ph—NH—NH—Ph

CC 4-6 (Toxicology)
IT 50-29-3, DDT, biological studies 50-55-5 50-81-7, L-Ascorbic acid, biological studies 51-03-6 55-38-9, Fenthion 56-38-2, Parathion 56-72-4 57-06-7 58-89-9, Lindane 59-42-7 59-87-0, Nitrofurazone 60-00-4, biological studies 60-51-5, Dimethoate 60-54-8 60-57-1 62-53-3, Benzenamine, biological studies 62-73-7, Dichlorvos 64-77-7 67-20-9, Nitrofurantoin 67-72-1 69-53-4 69-65-8, D-Mannitol 71-43-2, Benzene, biological studies 72-20-8, Endrin 72-43-5, Methoxychlor 72-54-8 72-55-9, biological studies 72-56-0, Di(p-ethylphenyl)dichloroethane 73-22-3, L-Tryptophan, biological studies 75-09-2, Dichloromethane, biological studies 75-27-4, Bromodichloromethane 75-35-4, Vinylidene chloride, biological studies 75-47-8, Iodoform 75-56-9, biological studies 76-01-7 76-44-8, Heptachlor 77-65-6, Carbromal **77-79-2**, 3-Sulfolene 78-34-2, Dioxathion 78-42-2 78-59-1 78-87-5 79-00-5, 1,1,2-Trichloroethane 79-01-6, biological studies 79-34-5 79-57-2, Oxytetracycline 80-05-7, biological studies 80-08-0, 4,4'-Sulfonyldianiline 80-62-6 82-28-0,

1-Amino-2-methylanthraquinone 82-68-8 83-79-4, Rotenone
85-44-9, 1,3-Isobenzofurandione 85-68-7 86-30-6,
N-Nitrosodiphenylamine 86-50-0, Azinphosmethyl 86-57-7,
1-Nitronaphthalene 87-29-6 88-06-2 88-96-0, Phthalamide
89-25-8 89-78-1 90-04-0 90-41-5, [1,1'-Biphenyl]-2-amine
90-94-8, Michler's Ketone 91-93-0 92-62-6, 3,6-Acridinediamine
94-20-2 94-52-0, 5(6)-Nitrobenzimidazole **94-78-0**
95-06-7, Sulfallate **95-14-7**, 1,2,3-Benzotriazole
95-47-6, o-Xylene, biological studies 95-50-1 95-53-4,
o-Toluidine, biological studies 95-69-2 95-70-5 95-74-9,
3-Chloro-p-toluidine 95-79-4 95-80-7 95-83-0,
4-Chloro-o-phenylenediamine 96-12-8 97-53-0 97-77-8,
Tetraethylthiuram disulfide 99-55-8, 5-Nitro-o-toluidine
99-56-9, 4-Nitro-o-phenylenediamine 99-57-0, 2-Amino-4-nitrophenol
99-59-2, 5-Nitro-o-anisidine 100-41-4, Ethylbenzene, biological
studies 100-51-6, Benzyl alcohol, biological studies 101-05-3,
Anilazine 101-54-2, N-Phenyl-p-phenylenediamine 101-61-1
101-77-9 101-80-4 101-90-6 102-50-1, m-Cresidine 103-23-1
103-33-3 103-85-5, 1-Phenyl-2-thiourea 104-94-9
105-11-3, P-Benzoquinone dioxime 105-55-5, N,N'-Diethylthiourea
105-60-2, biological studies 105-87-3 106-42-3, p-Xylene,
biological studies 106-46-7 106-47-8, p-Chloroaniline,
biological studies 106-50-3, 1,4-Benzenediamine, biological
studies 106-88-7, 1,2-Epoxybutane 106-93-4 107-06-2,
1,2-Dichloroethane, biological studies 107-07-3, biological
studies 108-38-3, m-Xylene, biological studies 108-60-1
108-78-1, 1,3,5-Triazine-2,4,6-triamine, biological studies
108-90-7, biological studies 108-95-2, Phenol, biological studies
109-69-3, n-Butyl chloride 113-92-8, Chlorpheniramine maleate
114-07-8, Erythromycin 114-86-3, Phenformin 115-07-1, 1-Propene,
biological studies 115-28-6, Chlorendic acid 115-32-2
116-06-3, Aldicarb 117-79-3, 2-Aminoanthraquinone 117-81-7
118-92-3, o-Anthranilic acid 119-34-6, 4-Amino-2-nitrophenol
119-53-9 120-61-6 120-62-7 120-71-8, p-Cresidine 121-14-2
121-66-4 121-75-5 121-79-9 121-88-0, 2-Amino-5-nitrophenol
122-66-7 123-91-1, 1,4-Dioxane, biological studies
124-48-1 126-72-7, Tris(2,3-dibromopropyl)phosphate 127-18-4,
biological studies 127-69-5 128-37-0, biological studies
128-66-5, Dibenzo[b,def]chrysene-7,14-dione 129-15-7,
2-Methyl-1-nitroanthraquinone 131-17-9 132-32-1 132-98-9,
Penicillin VK 133-06-2, Captan 133-90-4, Chloramben 135-20-6,
Cupferron 135-88-6, N-Phenyl-2-naphthylamine 136-77-6,
4-Hexylresorcinol 137-17-7, 2,4,5-Trimethylaniline 137-30-4
139-13-9 139-65-1, 4,4'-Thiodianiline 139-94-6, Nithiazide
140-11-4 140-49-8 140-56-7, Fenaminosulf 140-88-5 142-46-1,
1,2-Hydrazinedicarbothioamide 148-18-5 148-24-3, 8-Quinolinol,
biological studies 149-30-4, 2-Mercaptobenzothiazole 150-68-5
156-10-5 156-62-7, Calcium cyanamide 262-12-4, Dibenzo-p-dioxin

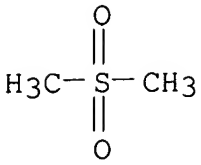
298-00-0, Methyl parathion 299-42-3 309-00-2 315-18-4, Mexacarbate 333-41-5, Diazinon 434-13-9 504-88-1, 3-Nitropropionic acid 510-15-6 512-56-1, Trimethylphosphate 513-37-1, Dimethylvinyl chloride 536-33-4, Ethionamide 542-75-6 542-78-9, Propanedial 551-09-7, N-(1-Naphthyl)ethylenediamine 555-30-6, Methyldopa 563-47-3 569-61-9 597-25-1 598-55-0, Methyl carbamate 602-87-9, 5-Nitroacenaphthene 609-20-1 615-05-4 615-66-7 619-17-0, 4-Nitroanthranilic acid 630-20-6 756-79-6, Dimethyl methylphosphonate 823-40-5 842-07-9 868-85-9 968-81-0, Acetohexamide 999-81-5, 2-Chloroethyltrimethylammonium chloride 1156-19-0, Tolazamide 1163-19-5, Decabromodiphenyl oxide 1212-29-9, N,N'-Dicyclohexylthiourea 1582-09-8 1596-84-5 1634-78-2 1746-01-6 1777-84-0 1836-75-5, Nitrofen 1897-45-6 1918-02-1, Picloram 1936-15-8 1955-45-9, Pivalolactone 2164-17-2, Fluometuron 2243-62-1, 1,5-Naphthalenediamine 2432-99-7 2438-88-2, 2,3,5,6-Tetrachloro-4-nitroanisole 2475-45-8 2489-77-2, Trimethylthiourea 2735-04-8 2783-94-0 2784-94-3 2832-40-8 2835-39-4 2871-01-4, H.C. Red 3 3099-31-8 3546-10-9, Phenesterin 3567-69-9 4377-33-7 5131-60-2, 4-Chloro-m-phenylenediamine 5160-02-1 5307-14-2, 2-Nitro-p-phenylenediamine 6358-85-6 6373-74-6, C.I. Acid Orange 3 8001-35-2, Toxaphene 12789-03-6, Chlordane
(carcinogenicity of, prediction of)

L57 ANSWER 9 OF 10 HCA COPYRIGHT 2006 ACS on STN
110:127104 Large-capacitance solid **electrolytic** capacitor.
Morimoto, Takeshi; Endo, Eiji; Takemiya, Satoshi (Asahi Glass Co., Ltd., Japan; ELNA Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 63239911 A2 19881005 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-71772 19870327.

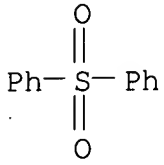
AB In the capacitor having an anode surface successively coated with a dielec. oxide layer and a solid **electrolyte** layer, the **electrolyte** layer is formed by heat-fusing ≥1 RSO2R1 (R, R1 = alkyl, aryl), mixing with a tetracyanoquinodimethane salt, cooling, and solidifying. N-Butylisoquinolinium-TCNQ salt (1:2) and EtSO2Et were heated, mixed, poured into an Al can, and cooled to give a capacitor with high capacitance.

IT **67-71-0**, Dimethyl sulfone **127-63-9**, Diphenyl sulfone **594-43-4**, Ethyl methyl sulfone **597-35-3**, Diethyl sulfone **598-03-8**, Dipropyl sulfone **598-04-9**, Dibutyl sulfone **599-70-2**, Ethyl phenyl sulfone **4253-99-0**, Dipentyl sulfone **16823-61-3**, Dihexyl sulfone **31124-39-7**, Butyl propyl sulfone
(**electrolyte** using TCNQ and, for solid **electrolytic** capacitor)

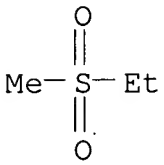
RN 67-71-0 HCA
CN Methane, sulfonylbis- (9CI) (CA INDEX NAME)



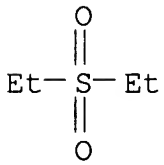
RN 127-63-9 HCA
CN Benzene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



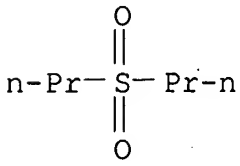
RN 594-43-4 HCA
CN Ethane, (methylsulfonyl)- (9CI) (CA INDEX NAME)



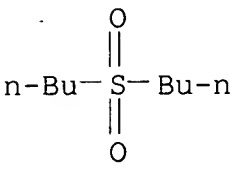
RN 597-35-3 HCA
CN Ethane, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



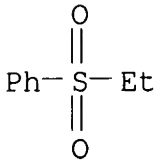
RN 598-03-8 HCA
CN Propane, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



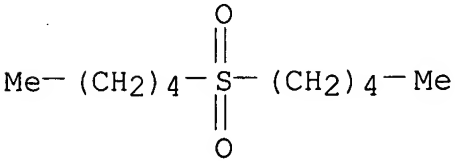
RN 598-04-9 HCA
CN Butane, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



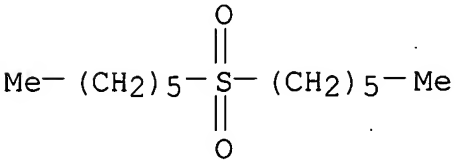
RN 599-70-2 HCA
CN Benzene, (ethylsulfonyl)- (9CI) (CA INDEX NAME)



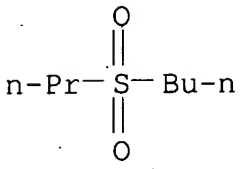
RN 4253-99-0 HCA
CN Pentane, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



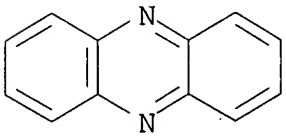
RN 16823-61-3 HCA
CN Hexane, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



RN 31124-39-7 HCA
CN Butane, 1-(propylsulfonyl)- (9CI) (CA INDEX NAME)



IT **92-82-0D**, Phenazine, TCNQ salt
(**electrolyte** using sulfone and, for solid **electrolytic** capacitor)
RN 92-82-0 HCA
CN Phenazine (8CI, 9CI) (CA INDEX NAME)



IC ICM H01G009-02
CC 76-10 (Electric Phenomena)
ST **electrolyte** solid capacitor TCNQ sulfone
IT Sulfones
(**electrolyte** using TCNQ and, for solid **electrolytic** capacitor)
IT Electric capacitors
(**electrolytic**, solid, TCNQ-sulfone **electrolyte** for)
IT **67-71-0**, Dimethyl sulfone **127-63-9**, Diphenyl sulfone **594-43-4**, Ethyl methyl sulfone **597-35-3**, Diethyl sulfone **598-03-8**, Dipropyl sulfone **598-04-9**, Dibutyl sulfone **599-70-2**, Ethyl phenyl sulfone **4253-99-0**, Dipentyl sulfone **16823-61-3**, Dihexyl sulfone **31124-39-7**, Butyl propyl sulfone
(**electrolyte** using TCNQ and, for solid **electrolytic** capacitor)
IT 85-02-9D, β-Naphthoquinoline, TCNQ salt 91-22-5D, Quinoline, TCNQ salt **92-82-0D**, Phenazine, TCNQ salt 95-16-9D, Benzothiazole, TCNQ salt 110-86-1D, Pyridine, hydrocarbon group N-substituted, TCNQ salt 119-65-3D, Isoquinoline, TCNQ salt 229-87-8D, Phenanthridine, TCNQ salt 230-27-3D, α-Naphthoquinoline, TCNQ salt 260-94-6D, Acridine, TCNQ salt 61458-55-7 84632-22-4
(**electrolyte** using sulfone and, for solid **electrolytic** capacitor)

L57 ANSWER 10 OF 10 HCA COPYRIGHT 2006 ACS on STN

101:30127 A small **electrolysis cell** for organic syntheses. Standardization attempt. Knittel, Dierk; Henning, Almut (Inst. Phys. Chem., Univ. Hamburg, Hamburg, D-2000/13, Fed. Rep. Ger.). Monatshefte fuer Chemie, 115(4), 391-9 (German) 1984. CODEN: MOCMB7. ISSN: 0026-9247.

AB A versatile **electrolysis cell** is presented, stable to common org. solvents and easy to handle, which allows org. electrosyntheses to be performed in a rather short time under conditions of low voltage, exact sepn. of anode and cathode compartments, and good potential control. Test examples of performance are given.

IT **122-66-7**
(**electrolysis** of, azobenzene from, cell for)

RN 122-66-7 HCA

CN Hydrazine, 1,2-diphenyl- (9CI) (CA INDEX NAME)

Ph—NH—NH—Ph

IT **103-33-3P**
(prepn. of, by **electrolysis** of hydrazobenzene, **cell** for)

RN 103-33-3 HCA

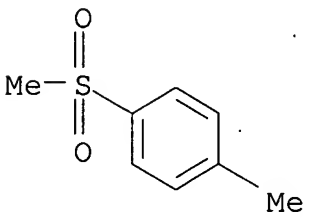
CN Diazene, diphenyl- (9CI) (CA INDEX NAME)

Ph—N=N—Ph

IT **3185-99-7P**
(prepn. of, by **electrolysis** of toluene sulfonyl chloride, cell for)

RN 3185-99-7 HCA

CN Benzene, 1-methyl-4-(methylsulfonyl)- (9CI) (CA INDEX NAME)



CC **72-4** (Electrochemistry)
Section cross-reference(s): 21

ST org synthesis small **electrolytic cell**

IT **Electrolytic cells**
(for org. synthesis)

IT Amidation

(acetamidation, **electrochem.**, **cell** for)
IT 16722-99-9
(acetamidation of, **electrochem.**, **cell** for)
IT 90846-24-5 90846-25-6
(debromination of, **electrochem.**, **cell** for)
IT **122-66-7**
(**electrolysis** of, azobenzene from, cell for)
IT 102-54-5 7446-09-5, reactions 7647-01-0, reactions 12125-80-3
13408-62-3 13408-63-4
(**electrolysis** of, **cell** for)
IT 31780-26-4
(**electrolysis** of, styrene from, cell for)
IT 1722-84-5P
(prepn. of, by **electrolysis** of azidostyrene in presence of acetic anhydride, cell for)
IT **103-33-3P**
(prepn. of, by **electrolysis** of hydrazobenzene, **cell** for)
IT 103-19-5P 623-13-2P **3185-99-7P**
(prepn. of, by **electrolysis** of toluene sulfonyl chloride, cell for)
IT 98-59-9
(redn. of, **electrochem.**, **cell** for)